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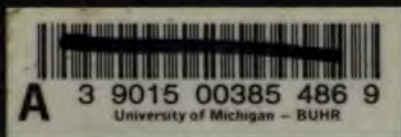
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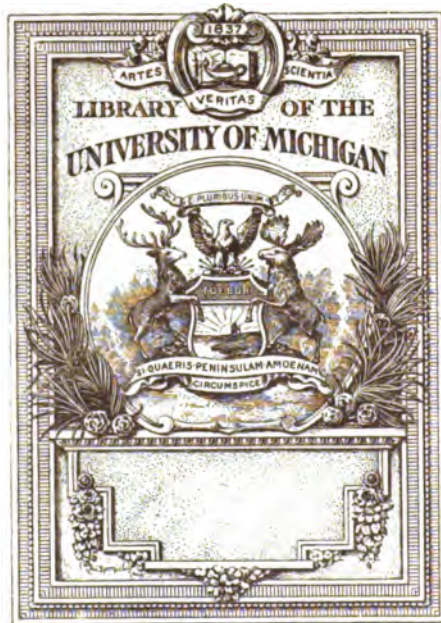
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Mr. Charles B. Ball.

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HON. JOHN HAY.

The
American International Congress

—ON—

Tuberculosis,  *St. Louis, 1904.*

HELD IN JOINT SESSION WITH THE

Medico-Legal Society of New York,

AT THE ST. LOUIS EXPOSITION OF 1904.

BULLETIN, 1904.

Published by the Medico-Legal Journal,
39 Broadway, N. Y. City.
1905.

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DEDICATION.

To the Memory of JOHN HAY.

To whose wise counsel and splendid co-operation as American Secretary of State, the American International Congress on Tuberculosis is indebted for the great success which crowned its labors at the World's Congress of 1904, at the St. Louis Exposition, in grateful recognition of which the members of the Board of Executive Officers direct their chairman to dedicate this volume.

CLARK BELL.

New York, October, 1905.

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PREFACE.

The American Congress on Tuberculosis was organized under the authority and auspices of the New York Medico-Legal Society, in February, 1900, and held its first session in the City of New York, February 22d, of that year, at the Hotel St. Andrews, sitting in joint session with the Medico-Legal Society.

It was the first organized movement on this side of the Atlantic, and its officers and members were selected from men of all the professions, and it published a Bulletin of its labors.

Its second and Annual meeting was held in 1901, at the Hotel Majestic, in the City of New York, again under the auspices of the Medico-Legal Society, with whom it met in joint session, each body having its officers, separate and distinct from each other, with an enlarged membership, in which, members from all the states, of all the professions united; and scientists from the Western Hemisphere, Governors of States and high public officials participated, especially from Canada, where great interest had been aroused and the Government of the Dominion had manifested a profound interest in the subject.

The published Bulletin of its labors, shows the great interest thus aroused in our country, and the foundations were laid for an enlargement of its work into all the countries of both the American continents.

The Congress of 1902 was held in June at the Hotel Majestic, and the countries of the Western Hemisphere were invited to participate by sending delegates and responded favorably showing the profound interest that had been aroused in all the American states, the Republics of Central and South America, Mexico and the Canadian Provinces.

PREFACE.

large, as to the power, force and practical utility of the greatest questions in Forensic Medicine of our era, viz :

How far can preventive legislation arrest, prevent, regulate or minimize the ravages of consumption ?

How can the masses of our people be best educated to favor such legislation, and arouse, create and mould public opinion to enforce such legislation when enacted ?

The Paris International Congress on Tuberculosis has just been held.

It has been concerned more with the strictly medical questions connected with the treatment of the disease. It has given the world a hope for a remedy for consumption which is foreshadowed, but which may not be realized.

It has ignored the higher, more important question, of preventive legislation, the question of the hour, the question that confronts the legislator, the scientist, the publicist, the philanthropist : What can be done by legislative enactment, and intelligent and stringent enforcement sustained by a strong public sentiment, that will as a result diminish and minimize the ravages of a disease the terrible consequences of which are so appalling to the human race ?

This Congress did not fix the date of its future session, but it was the opinion of all, that it should not again meet until after the session of the Paris Congress had been held.

The question of the time and place of its next meeting was left to its officers, who are now considering that subject and the wisdom of holding it next year.

The Congress at St. Louis instructed its officers to continue their work as to the labors of that Congress, and to bring out this Bulletin and it is in pursuance of that instruction that this volume is now presented by the Chairman and Vice Chairman of the Executive Board.

CLARK BELL,
Chairman.

E. J. BARRICK,
Vice Chairman Executive Board.

November 1st, 1905.

PREFACE.

had arrested the work of the Congress, and the newly elected Board of Officers and Council of this body, proceeded vigorously to complete the work for the Great Congress to be held at St. Louis, in October, 1904.

The Government of the United States under the leadership of Hon. John Hay, sent through the Government Diplomatic channels, official invitations to all the Governments of the Western Hemisphere from the officers of the Congress.

Secretary Hay praised the objects and aims of the Congress and solicited the co-operation of all Governments of the American continent, of North and South America to co-operate and send delegates.

The management of the St. Louis Exposition then asked the management of the Congress to organize under their auspices, and a committee on organization was named by President Francis, of the St. Louis Exposition, of which Clark Bell, Esq., LL. D., of N. Y., was made chairman.

This committee accepted and organized, and the meeting at St. Louis, October 3, 4 and 5, 1904, was held under the auspices of the St. Louis Congress, and the powerful sympathetic action of the American Government, in which men of all the professions united, and the session was held as before in joint session with the Medico-Legal Society of New York, at the World's Exposition at St. Louis.

It was a splendid success, and it elected a full board of officers of distinguished ability.

Its Governing Council is beyond question the ablest body of men ever selected to grapple with the questions that now confront the human race in the conflict with Tuberculosis.

The men who founded the Congress, and who carried forward this great work of philanthropy in the interest of and for the good of the race, take a high pride in placing the record of their labor before the professions, scientists and the intelligent laity, and the still higher and more unprejudiced judgment of the American people.

The mission of the Congress of 1904 was to arouse and educate not only the Medical profession, but the people at

PREFACE.

large, as to the power, force and practical utility of the greatest questions in Forensic Medicine of our era, viz :

How far can preventive legislation arrest, prevent, regulate or minimize the ravages of consumption ?

How can the masses of our people be best educated to favor such legislation, and arouse, create and mould public opinion to enforce such legislation when enacted ?

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CLARK BELL,
Chairman.

E. J. BARRICK,
Vice Chairman Executive Board.

November 1st, 1905.

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**HONORARY PRESIDENTS OF THE AMERICAN INTERNATIONAL
CONGRESS ON TUBERCULOSIS.**

HON. PORFIRO DIAZ,
President of Mexico,
City of Mexico.

HON. L. F. C. GARVIN,
Governor of Rhode Island,
Providence, R. I.

HON. SENOR IGNACIO MARISCAL,
Minister of Foreign Relations,
City of Mexico.

PROF. DR. OTTO VON SCHROEN
Royal University,
Naples Italy.

AMERICAN INTERNATIONAL CONGRESS ON TUBERCULOSIS.

Universal Exposition, St. Louis, 1904.

Some criticism from medical sources has recently been made reflecting upon the medical men selected and appointed by the President of the Universal Exposition at St. Louis as a committee for the organization of the International Congress on Tuberculosis, to be held in St. Louis, October 3, 4 and 5, 1904.

We publish a list of that committee consisting of 21 members as originally appointed of which 3 only were laymen and 18 were physicians.

The committee on organization is composed as follows:

Clark Bell, LL. D., Chairman, 39 Broadway, N. Y.; President Medico-Legal Society of New York.

E. J. Barrick, M. D., Toronto, Ontario; President of the American Congress on Tuberculosis.

A. N. Bell, M. D., N. Y., Editor Sanitarian; Honorary President of the Congress.

J. Mount Bleyer, M. D., New York, Vice-President of the Congress.

Hon. Ex-Judge Abram H. Dalley, Brooklyn, N. Y.; Honorary President of the Congress.

Dr. F. E. Daniel, Austin, Texas; First Vice-President of the Congress; Editor of the Texas Medical Journal.

Thomas Darlington, M. D., Kingsbridge, New York; Ex-Treasurer Medico-Legal Society; President Board of Health New York City; Secretary of the Committee on Organization.

W. F. Drewry, M. D., Petersburg, Virginia; Vice-President of the Congress; Member of Council.

Hon. Moritz Ellinger, New York; Corresponding Secretary of the Medico-Legal Society and Chairman of the Governing Council.

A. P. Grinnell, M. D., Burlington, Vermont; First Vice-President of the Medico-Legal Society of New York.

Prof. Dr. C. H. Hughes, Honorary President of the Congress, St. Louis, Mo.

M. K. Kassabian, M. D., Member of Council, Philadelphia, Pa.

H. Edwin Lewis, M. D., Burlington, Vt., Editor Vermont Medical Monthly; Member of Council.

Dr. W. F. Morrow, Secretary State Board of Health, of the State of Missouri, Kansas City.

Richard J. Nunn, M. D., Savannah, Ga.; Member of Council.

Dr. W. B. Outten, Chief Surgeon M. P. System, St. Louis, Md.
 Surgeon General Nicholas Senn, Chicago, Ill.; Honorary President of the Congress.

Dr. John H. Simon, Health Commissioner, St. Louis, Mo.
 J. W. P. Smithwick, M. D., La Grange, N. C.; Member of the Council.

G. B. Tabor, State Health Officer, Austin, Texas.

The following names have been added to the Committee on Organization by the Executive Board since the first announcement of the Committee was made public:

Prof. Dr. A. H. Wright, of the University of Toronto.

Dr. John Ferguson, Editor of the Canada Lancet.

Dr. M. M. Smith, of the Texas Medical News

Dr. A. E. Regensburger, of San Francisco, Cal.

These gentlemen are holding prominent positions in the Congress.

VICE-PRESIDENTS OF THE AMERICAN CONGRESS ON TUBERCULOSIS RECENTLY APPOINTED AND WHO HAVE ACCEPTED IN THE DOMINION OF CANADA.

HONORARY VICE-PRESIDENTS.

Dr. T. G. Roddick, M. P., Montreal, Quebec.

Sir William Hington, M. D., Montreal, Quebec.

Hon. Senator Geo. A. Drummond.

James Loudon, President of the University of Toronto.

VICE-PRESIDENTS AT LARGE.

Dr. W. P. Caven, Toronto, Ontario.

Dr. Daniel Clark, Toronto, Ontario, vice Henry B. Baker, not qualified.

Dr. R. W. Powell, Ottawa, Ontario.

Dr. W. H. Moorehouse, London, Ontario, vice Dr. C. S. Wilbur, not qualified.

VICE-PRESIDENTS OF PROVINCES.

Dr. Albert A. Macdonald, Toronto, Ontario.

Dr. J. A. Robertson, Stratford, Ontario.

Mayor Adam Beck, London, Ontario.

Mayor James Cochran, Montreal, Quebec.

Mayor W. W. White, St. Johns, N. B.

Charles J. Coster, St. Johns, N. B.

Mayor John Arbuthnot, Winnipeg, Manitoba.

Dr. H. H. Chown, Winnipeg, Manitoba.

Dr. J. A. M. Alkins, Esq., K. C., Winnipeg, Manitoba.

Dr. J. D. Laferty, Calgary, N. W. T.

Dr. G. A. Kennedy, McLeod, N. W. T.

Rev. Dr. J. C. Herdman, Calgary, N. W. T.

Dr. C. J. Fagan, Victoria, B. C.

Rev. Leslie Clay, Victoria, B. C.

Dr. S. T. Turnstall, Vancouver, B. C.

In the published list of the Vice-Presidents at Large who fill that office 35 physicians of the very highest standing in the United States of America are embraced.

In addition to which the Vice-Presidents appointed for the different States of the Union, outside of those named for foreign countries, who were identified with the Congress

embrace more than 125 physicians of the very highest standing in their respective states, whose names have been published.

This does not embrace the Canadian members and officers of the Congress elected at the annual meeting of June, 1903, and heretofore announced in preceding numbers of this Journal.

ANNOUNCEMENT.

The following announcement has been issued by the management of the American International Congress on Tuberculosis on January 15, 1904.

New York, January 15, 1904.

My Dear Colleagues:—

It is out of the question for the Chairman of the Committee on Organization, to write all our officials in all the States, but enough has transpired to send you copies of such articles as are appearing and will appear from time to time in the public press, lay and medical. I hope this will reach you in time for the February Journals, in which it is hoped some of the matter furnished you, will find publicity, in both lay and medical journals.

Enough now has occurred, to settle the question that there will be a great meeting of the St. Louis Congress in October, 1904, at the universal Exposition, and the representation will be quite too large, for the consideration or even discussion of individual papers, except in sections.

The character of the medical men connected officially with the Congress, and its organization by the committee named by Governor Francis of the International Exposition, embracing such illustrious names from the medical profession as Dr. A. N. Bell, Editor of *The Sanitarian*, of Brooklyn; Dr. E. J. Barrick, President of the International Congress; Dr. F. E. Daniel, First Vice President, *Texas Medical Journal*, Texas; Dr. Thomas Darlington, President Board of Health New York City and Secretary of the Committee on Organization; Dr. W. F. Drewry, Vice President and member of Council, Petersburg, Va.; Dr. A. P. Grinnell, of Burlington, Vt., First Vice President Medico-Legal Society; Prof. Dr. C. H. Hughes,

alienist and neurologist, St. Louis, Mo., Honorary President; H. Edwin Lewis, M. D., Editor Vermont Medical Monthly, Burlington, Vt.; Dr. W. F. Morrow, Secretary State Board of Health of the State of Missouri; Dr. Richard J. Nunn, member of the Council, and one of the ablest medical men in Georgia; Dr. W. B. Outten, Surgeon General of the Missouri Pacific Railway System of the U. S.; Surgeon General Nicholas Senn, M. D., of the State of Illinois, and at the very head of the medical profession of his State; Dr. John H. Simon, Health Commissioner of St. Louis, Mo.; and Dr. George B. Tabor, the State Health Officer, of Austin, Texas, not to enumerate all the other medical men of that committee, or those who have accepted positions of Vice Presidents, honorary, at large, or from the several States, more than one hundred and fifty in number, should be a sufficient guaranty, not alone to the medical profession, but to the community, that all questions concerning the proper censorship of papers; the suitable regulation of subjects for discussion, and the organization of standing committees and programme, will reflect only honor and credit upon the medical profession of which these gentlemen form so conspicuous a part.

Announcements have been and will continue to be made under the head of "Notes on Tuberculosis" in the Medico-Legal Journal for the months intervening between the issues of the Journal, announcing the progress of important current events. Applications for membership are reaching us from all parts of the country and from the Canadas. The principal objector now, is an energetic medical gentleman who has applied for admission, as he says, unsuccessfully, and who is now advising the medical profession to confer at Baltimore, on the advisability of naming a national medical committee on tuberculosis.

That the medical profession should have such a committee is beyond all question or dispute, but it is doubtful if it could be considered as such, if it originates by a few gentle-

men who meet for conference on the call of such an individual or to serve any body of individuals.

It should be organized, by and under the auspices of the American Medical Association, and by its authority to entitle it to be recognized as representative or worthy of influence. If the State Medical Society of a State should originate such a measure, and other States co-operated, it might in time gain respect.

We do not see how any coterie of medical men, who represent no state or national society, could name, select or place their friends on such a committee, and secure medical respect and recognition, or be classed or considered as representative in character.

The American International Congress on Tuberculosis, will take a deep and lively interest, in securing suitable representation at the French Congress on Tuberculosis at Paris in 1905, and will not in any manner antagonize the proposed congress announced by Dr. Daniel Lewis and his associates, which is announced for Washington in April, 1905.

All medical or legal gentlemen, legislators, public officials scientists or intelligent laymen, who are interested in its work, and boards of health, medical or legal associations or bodies, will be warmly welcomed to representation at its meeting; and the delegates not to exceed three in number, except State Medical Associations, where a larger number will be received, if properly vouched for, by the State Medical Associations, or by a suitable medical committee on officers who have not remitted their dues for 1903, of \$1.00, credentials, named by the management of the Congress in States where no delegates are named by State societies.

All delegates named by Governors of States or by State Medical Societies, or by other medical organizations, for the American Congress on Tuberculosis in 1900, 1901 and 1902, in good standing, are entitled to enroll in the Congress of 1904 on payment of any arrears of annual dues, and sending a written request to the proper officers.

The membership fee for 1904 is only \$1.00, and members forwarding names and addresses will be enrolled in the order of the receipt of their applications. Members and of- will please do so without being asked to do so.

All members of 1903 and 1904 who also remit \$1.50 in addition, will receive the Volume XXI, Medico-Legal Journal at half price, which will contain all the latest and current announcements of the Congress.

Respectfully submitted,

E. J. BARRICK, M. D., President American International Congress on Tuberculosis.

CLARK BELL, Chairman Committee on Organization of the Universal Exposition, St. Louis, 1904, and of Board of Executive Officers of the International Congress.

MORITZ ELLINGER, Chairman of the Council.

SAMUEL BELL THOMAS, Secretary.

THE BALTIMORE CONFERENCE.

As illustrating the great interest felt by the older men of the Medical profession, in showing that the American International Congress of St. Louis, is on Medico-Legal lines and not on Medical lines as such.

We enclose the following correspondence :

St. Louis, Mo., Jan. 21, 1904.

My Dear Clark Bell:—I sent a letter of which enclosed is a copy, to the Secretary of the Baltimore conference, and to Drs. Welch and Osler. So you see my argument and how I stand. So you see my argument and how I stand. I think they will come in.

Very truly yours,

C. H. HUGHES.

St. Louis, Mo., Jan. 21, 1904.

Dear Doctor:—As a member of the profession interested in its welfare, and as a citizen having a physician's concern for sanitary advance among the people, I believe it to be the professions' duty to patronize and support the effort now begun, through the World's Fair Management, the support of the Government and the initiation of the New York Medico-Legal Society's Congress on Tuberculosis.

This congress, though not an exclusively medical movement, is following in the line of our precepts for the suppression of tuberculosis. The voice of the medical profession will be heard by all the people, if we support this popular movement now, and the world will come nearer securing fruition of the profession's hopes, at this congress than ever before, for potent influences are already enlisted for the conquering of consumption, in addition to our own, but whatever results accrue from this St. Louis congress must redound to the glory of the medical profession, as having enlightened and pointed out the way for the people's escape from the ravages of this plague of civilization and indoor life.

The movement now begun will go on and if we attempt to discountenance it now by holding aloof or placing obstacles in its path, we will suffer in popular censure as our ancestors in the profession did in the attitude toward the popularization of vaccination.

We have made the knowledge of phthisis so complete and so plainly proclaimed our methods and hopes for its eradication we cannot now afford, from the standpoint of the profession's best interests, to appear opposed to the World's Fair Congress, supported as it is by the Government, for such awakened interest and endeavor on the part of the people is what we have always asked for. Support of this movement, new to the people and the century, appears to one not associated with any tuberculosis society but having a zealous professional interest in all sanitary crusades, that honor the work of the medical profession to be the profession's unfaltering duty and interest at this time.

The work of other and more exclusively medical organizations need not, by thus supporting this worthy movement in our own

professional footsteps, be discouraged, but on the other hand they should all be supported by us.

As a loyal St. Louisan interested in the good repute of the St. Louis Universal Exposition, whose outstretched hands hospitably invite the exploitation of all interests conducive to man's welfare, I could not discountenance the coming of any body of reputable men, with worthy purpose within our borders. And if I were not loyal to the Universal Exposition of my city, my loyalty to my profession's highest interests would prompt the countenance and patronage of all such worthy purposes, even though I might not approve the sources of their inception.

Very truly yours,

C. H. HUGHES.

P. S.—Let me suggest to the gentlemen who will meet at the contemplated conference in Baltimore, that you insist on the fact that the World's Fair Congress is a medico-legal and popular move to do something on preventive lines marked out by the regular medical profession, and so well understood that they are as popularly known as vaccination is in relation to smallpox. Remind them that the profession objected to the popularizing of Jenner's vaccination methods, and warn them not to make a similar mistake.

Austin, Texas, Jan. 20, 1904.

Dear Clark Bell:—I have your letters all right and everything understood and satisfactory, and subject matter will have careful attention.

Prof. Welch, of Johns Hopkins, will preside at the Baltimore conference. I have written him and called his attention to the fact that the French Congress has been postponed so as to not conflict, and also that the International Congress on Tuberculosis like the A. B. H. A., is a congress of sanitarians from all branches of science, and not a medical congress solely, and expressed surprise that such as he should lend his countenance to anything like antagonism to it.

Yours very truly,

F. E. DANIEL.

THE PASSING OF THE AMERICAN CONGRESS ON
TUBERCULOSIS ANNOUNCED FOR WASH-
INGTON IN APRIL, 1905.

Some confusion has been created by the announcement of a Congress on Tuberculosis to be held in April, 1905, by an organization under the Presidency of Dr. Daniel Lewis, of New York, in which the name of the American Congress on Tuberculosis had been closely imitated (with the addition of a few words). This action met with some criticism, at the hands of the Medical Press, and notably, by the Editor of the Journal of the American Medical Association, who advised its promoters that the assumption of the name, of the body, which had received the endorsement of the Government of the United States, or one so near to it as to create confusion in the public mind, was a grave error, and frankly advised that it ought not to be continued.

This was excellent advice from a high authority, and we are very glad to be able to announce that it has been followed. The organization which announced itself as the rival of The American Congress on Tuberculosis, and with the same name, with a few words added, to prevent an absolute duplicate, has ceased to exist. The President of the Tuberculosis Congress of April, 1905, announced to be held at Washington, Dr. Daniel Lewis, of New York, is the Editor of "The Medical Review of Reviews."

In the 25th December, 1903, number of that journal, at the head of that editorial column, the following announcement was made:

THE AMERICAN ANTI-TUBERCULOSIS LEAGUE.

The corporate name of the American Congress on Tuberculosis which is to meet at Washington, D. C., in April, 1905, has been changed to the American Anti-Tuberculosis League. This change has been effected in order to make an unmistakable distinction be-

tween this association and any other similar meeting for the discussion of the tuberculosis question.

It is the purpose of those interested in the League to have the meeting under the medical direction and control in order to insure the desired high character of the communications to be presented. It is also proposed to enlist the active co-operation of all anti-tuberculous organizations and others engaged in charitable work.

Plans are rapidly maturing for the appointment of the Committee on Programme, Business Committee, Transportation, etc., and the large number of delegates (1,000) already elected by national, state and local societies insures in advance a notable meeting.

The professional public will be duly notified of the progress of organization. The practical application of nearly all measures for the restriction of tuberculosis must depend upon the action of health officials, which fact is recognized by having sanitarians well represented in the management. Every phase of the problem is to be discussed, however, by men who will command the attention of the two continents.

The great importance of public education upon the prevention of consumption is a sufficient reason for the organization of this national league, and will certainly enlist the active and cordial support of every member of the medical profession who has the welfare of the people as a guide to his professional activity.

There now remains but one American Congress on Tuberculosis, and its announcement of an International Congress on Tuberculosis, under the auspices of the Universal Exposition at St. Louis, on October 3rd, 4th and 5th, 1904; and the auspices of the American Congress on Tuberculosis, with the high endorsement of the Government of the United States, terminates a controversy which has given rise to some confusion in our country, and in foreign countries that have been invited by the American Government through its State Department to be present at a session, which leaves no further doubt or controversy possible as to the success of the great International Congress on Tuberculosis at St. Louis in October.

We understand that the managers of the American Anti-Tuberculosis League now contemplate holding its session in April, 1905, in Washington. That it be limited in membership, management, direction and control to medical men.

Such an association should be capable of usefulness, and whether it will meet to begin its career at Washington or elsewhere, it will not be antagonized by any member or officer of The American International Congress on Tuberculosis.

PROF. DR. MAURICE BENEDIKT.

This eminent man who has accepted an Honorary Vice-Presidency in this body, writes expressing his great sympathy with the Congress, and notices the opposition to its work in medical circles. He intimates that he may discuss some of the questions involved for the benefit of his friends in the medical profession in America.

ST. LOUIS CONGRESS ON TUBERCULOSIS.

An open letter from Prof. Dr. Maurice Benedikt to the American public and the Medical profession.

Mr. Clark Bell, the Chairman of the Committee on Organization appointed by the Universal Exposition at St. Louis to organize an International Congress on Tuberculosis, to be held October, 1904, at St. Louis, has received an open letter from Prof. Dr. Maurice Benedikt, of Vienna, one of the Honorary Presidents of the Congress, from which we make a few extracts for the public press, respecting the opposition of medical men who oppose the holding of the Congress, because it was not originated by and limited to the medical profession. Prof. Benedikt says:

"No person doubts that misery is the principal source of Tuberculosis, and as it is a historical truth that prevention is better than cure, and as we may be sure that this truth is also prophetic, we must say that prevention of misery is the most efficacious help for tuberculosis. Prevention of social misery is surely not a special task for physicians.

"To abolish misery we should raise the conditions of family homes of the poor to make f. e. cleanliness possible and to accustom the poor to it. We ought to protect them from the injuries of cold and heat, from starvation, from prostitution through misery, from alcoholism through despair, etc., etc.

"For these duties we need the collaboration of philanthropists of the representatives of communities, countries and States. We need money and laws for that purpose. We need, f. e. a law to be able to separate an infectious phthisis from his family even against his own will. But we are then obliged to compensate the family for the loss of his earnings, if through such loss his relatives are in danger of perishing by misery.

"The medical profession could not supply these duties from their own economical means.

"I hope to prove at the Congress that the protection of tuberculous individuals and principally in light cases must be quite another than that of phthisis, and that we need for the protection of the first class of patients a widely organized patronage. It is principally for phthisis that we need special and hospitals like sanatoriums. The idea of these institutions is a merit of the medical profession; the execution of this idea is a matter for society which should



PROF. DR. MORITZ BENEDIKT, VIENNA, AUSTRIA,
Honorary Vice President American Congress on Tuberculosis
Honorary Member of the Medico-Legal Society.

before all resolve the economic problem. One needs for this institution not only the collaboration of physicians, but also that of architects, of technical men and of administrative talent. Good and wholesome water becomes then a fundamental exigence; to supply it we need the collaboration of geologists and of technical men.

"In reference to all these indispensable collaborations, the model British Congress on Tuberculosis was summoned not only by doctors, but also by 'laymen,' and these were invited; not only by the medical authorities, but also representatives of the Government, the Mayors of the cities, members of Parliament, philanthropists, etc., etc. And they were present and their presence was necessary; it makes then zealous partisans by means of immediate impression. But this Congress was not specially professional. The Congress on Criminal Anthropology united the heads of juridical and biological science, pedagogues, administrative authorities and philanthropists, the same elements you find at the Congress of patronage.

"Can you imagine a Psychological Congress without biologists, or would a Congress on Statistics be possible without the collaboration of physicians, judges and administrators?

"We think that the high scientific schools must represent the Universities scientiarum; the more before all the Congress on Tuberculosis must represent the Universities societatis humanae.

"But I feel myself impelled from the interior of my intellect, but in no way from the interior of my heart, to reproach you for having elected me as Honorary President and for having given me an isolated high place which does not correspond to my scientific position in the question of tuberculosis. I am to a certain degree an outsider in this question, and it may be that I should never have written a word about this matter. I had not been invited to collaborate for the British Congress. I took that on consultation with my British colleagues and I communicated to them then my personal experiences and my own ideas on the matter.

"There are many scientific men who have made eminent researches and experiences about tuberculosis and with them I cannot compare myself in merit. I place my dignity as Honorary President at your disposal while remaining profoundly touched by your kindness. I shall come to the Congress also as a simple member before all, because I think I may have to tell you one or another thing which might not be told by any one else. I shall come not only on account of the interest I take in the Congress, but also for other reasons.

"Since my youth I have had the desire to see the United States with my own eyes and above all to become acquainted with its citizens, its learned men, its medical profession and its institutions. My interest in the American medical profession was awakened many years ago by your dentists. I said to myself behind those teeth there are good heads. As my knowledge of American authors increased I was confirmed in my conviction that it is so.

"In general I am of the opinion that from the United States will come a complete renaissance of modern social life. You have profited by all the traditions of European nations and you do not suffer from the drawbacks of these traditions which weigh so heavily on European intellect and energy of will have ample scope for plenty of evolution. The multitude of representative parliaments afford opportunity for all sorts of social improvements and of legal reforms without being hampered by the fatal social organization of different classes as on the old Continent.

"The rich evolution of individualism has created in America a high interesting species of gentlemen. In Europe every progress is an outcome of the 'Schools.' You have an original species of men

whom I should name the problemists. In technical questions they form a 'profession of inventors,' also in science it may happen that a gentleman is shocked by a problem. They may not be enough prepared scientifically. Then they appropriate to themselves as self-made men the necessary knowledge and the necessary dexterity for the solution of the problem.

"I hope to be able to shake hands with one or the other of them and I say to you, my dear sir, au revoir a St. Louis.

"Yours faithfully,

"PROFESSOR M. BENEDIKT."

THE PATHOLOGY AND BACTERIOLOGY OF THE TUBERCULE BACILLUS.

Prof. Otto von Schroen, of the Royal Anatomical and Pathological Institute of the Royal University of Naples, one of the greatest of the living students of that country, has accepted the invitation of the Congress to address it on this theme and give illustrated demonstrations.

He sends his programme of the Sub-divisions of the address, viz:

- (1) The three typical phases in the structural development of the tuberculosis bacillus.
- (2) The three cycles of evolution of the tuberculosis bacillus, which emanate from these three typical structural phases.
- (3) The histological, bacteriological and clinical difference between lung tuberculosis and lung phtisis.
- (4) The specific crystal of the tuberculosis bacillus and the specific crystal of the thiro-organism of lung phtisis.
- (5) Comparison between the specific crystal of
 - (a) The tuberculosis bacillus.
 - (b) The thiro-organism of lung phtisis.
 - (c) The bacillus of Finkle and Prior.
 - (d) The bacillus of Cholera nostras.
 - (e) The microbe of Cholera Asiatica.
 - (f) The bacillus Anthracis.
 - (g) The bacillus subtilis.
 - (h) The bacillus Coli comune.
 - (i) The bacillus negatorium.
 - (k) The bacillus taeniaeformis, (Schroen).
 - (l) The bacillus diplocapsularis, (Schroen).

The demonstration of these new facts so important for the doctrine, as also for the diagnosis of lung tuberculosis he intends to make with microscopical preparations and with projective throphotograms taken from the preparations.

The preparations showing these facts originate:

- (1) From Sections of lungs of Consumptives and Phtisists
- (2) From Sections of bronchial lymph glands of consumptives and phtisists.
- (3) From serial sections of tuberculosis bacilli, cultures in nitro. (Shroen's method).
- (4) From Culture uppreparations of the tuberculosis bacillus in closed hanging drop. (Schroen's method).
- (5) From Culture preparations of the hanging drop under the Schroen glass globe.
- (6) From auto cultures, six years old, of the sputum of consumptives. (Schroen).
- (7) From fresh sputum of consumptives and phtisists. (Scroen's method).

THE SANATARIAN AS A CRITIC.

Criticisms on the American International Congress on Tuberculosis seem to be in order just at the present time. They may be classified as follows:

1. From Medical Editors who not being members of the American Congress on Tuberculosis, nor familiar with its history, aims, objects and purposes, and ignorant of its membership, and the very strong force of Medical men of the highest standing and eminence in their profession in the United States, who were identified with the labors of the body have felt and expressed fears in their columns lest something might occur at the St. Louis Congress, of October, 1904, prejudicial to the dignity of the Medical profession, who might be deemed to be held responsible for the action of the Congress.

Foremost in this class was the Journal of the American Medical Association, whose editor, on learning that the Congress organized in 1900 and meeting annually since, electing its officers, holding joint sessions with the Medico-Legal Society, and always acting under its auspices, never claiming to be a Medical Society per se, but on the contrary, open to all the professions, and having on its roll of officers and members, judges, jurists, governors of state, public officials, scientists and laymen of distinction and recognizing that the Medical profession could not possibly be held responsible for its action, has discontinued his attacks in that influential journal.

2. From prominent physicians who, perhaps, conscientiously believe that a Congress on Tuberculosis should only be held upon the authority and organization of Medical men, and that all other professions should be excluded from

its management and control. This is the view of a rival organization, which was formed under the presidency of Dr. Daniel Lewis, and embraced some of the foremost names selected from the State Boards of Health of a few of the American States, who have announced a Congress to be held in Washington, D. C., April, 1905, and they have changed the name they had originally assumed to "The American Anti-Tuberculosis League."

These gentlemen have vigorously opposed the action of the American Congress on Tuberculosis, and have endeavored as far as lay in their power, to prevent, if possible, the holding of any Congress on Tuberculosis at the St. Louis Exposition. They make no concealment of their attempts to oppose the American National Congress on Tuberculosis at St. Louis; and have endeavored to have their claims presented at a recent conference at Baltimore, to which their friends were very generally invited to attend, in the hope that by some informal action of medical men present on that occasion, some steps might be taken, the result of which, they hoped might be prejudicial to the success of the St. Louis Congress on Tuberculosis.

3. Comments from eminent physicians, prominently identified with the St. Louis Congress, addressed to Prof. William H. Welch, an eminent physician of Baltimore, who was to preside at the Baltimore Tuberculosis Exposition, which have appeared elsewhere in our columns, written by Prof. C. H. Hughes of St. Louis and Dr. F. E. Daniel of Austin, Texas.

4. Favorable criticisms from New York City physicians not members of the Congress, but who become members of it out of sympathy, of which the following communication is a sample:—

Clark Bell, Esq., Chairman Committee on Organization, American International Congress on Tuberculosis.

Dear Sir:—I was very sorry to note the tone of the comment of some of the medical press in regard to the American International

al Congress on Tuberculosis. I am sure when these critics are better informed about the object of the Congress and its members, they will see their mistake and co-operate with you and your efforts.

Yours sincerely,

ROB'T. L. WATKINS, M. D.

5. Criticisms from Medical Journals replying to the assaults of a medical critic, who having been disappointed in his efforts to become a member of the American Congress on Tuberculosis, has been assailing its medical members as incompetent.

We enclose the reply of Dr. A. N. Bell, Editor of the Sanitarian, one of the foremost sanitarians of our century and of our country, who had forgotten more concerning the best methods of preventive legislation, before the energetic but disappointed critic was born, than it is probable this worthy will ever learn clipped from the February number of the Sanitarian.

The Sanitarian.

The veteran editor of the Sanitarian Dr. A. N. Bell, wields a trenchant pen, and has ground his battle axe for an energetic member of the profession whose methods he seems to well understand. Dr. A. N. Bell was elected president of the American Congress on Tuberculosis in 1900, and served as such in 1901. He retired in 1902 when Dr. Henry D. Holton succeeded him and Dr. Bell was made Honorary President, a position he still occupies. He is familiar with the history, of the inception, rise and progress of that body; and those who know him will agree with us that in medical matters he is as conservative and as strong as he is in sanitary measures.

The American Congress on Tuberculosis has during its life and career had the benefit of the knowledge, experience and skill of Dr. A. N. Bell, and for nearly all the time he has served on its Executive Committee; and it is largely due to his wise counsel, that it has grown into the splendid place it now holds.

We can't understand how he can give so much space in his valuable journal to any one person, as he has done to

the disappointed critic of the American International Congress, and especially when he knows, of the motive, that inspires the action and criticisms.

We publish it, omitting the name of the critic, as we do not care to advertise him to the mass of our readers, who have never heard of him as we suppose.

(From the Sanitarian, February, 1904.)

THE INTERNATIONAL CONGRESS ON TUBERCULOSIS.

Dr. ———, of New York, not "Knapp" as the printer made us say in our January issue, who has such an antipathy to Mr. Clark Bell, that he would sooner have no Congress with a view to concentrated action for the prevention of tuberculosis, than one with which Mr. Bell is identified. This opposition of the Doctor's is the more remarkable since, besides his having assumed oracular authority in behalf of the medical profession, through a half dozen or more medical journals, defining the qualifications of the personnel which he deems essential for such an organization, he has presented an urgent "Plea for Justice to the Consumptive," (Medical Record, January 2), to an audience of jurists and physicians, embodying the need of just such co-operation of physicians and men of other professions and affairs as provided in the International Congress. He severely and deservedly berates the Governor and Legislature of New York for their opposition to the will of the medical profession in the choice of suitable sites for sanatoria. But anxious as he always appears to be, to identify himself with every movement for the treatment and prevention of tuberculosis he hears of, he schemes and attempts to debase the forthcoming International Congress, because Mr. Clark Bell has been a leading spirit in its organization.

Early in November last he wrote to Dr. E. J. Barrick, President of the Congress:

"I have learned that there is to be an American Congress on Tuberculosis of which you are the president. I am anxious to be informed as to when and where the Congress is to be held, and who is the secretary, and what formalities have to be complied with in order to become a member?

"Thanking you in advance for your kindness, I am,

Very sincerely yours,

(Signed with the writer's name.)

P. S.—If there is any printed matter (circulars, etc.,) issued, will you kindly favor me with such?"

In reply, Dr. Barrick referred him to Mr. Clark Bell, Chairman of the Committee of Arrangements, who could tell him all about it. That was enough. From the time he received the reply to this, he seems to have worked unceasingly to debase and supplant it. He has been successful in so far as to have been chiefly instrumental in calling a review congress, at the "Tuberculosis Exposition" to be held in Baltimore, beginning January 25th, to know what he and his followers can do about it.

We are gratified to know that, notwithstanding this doctor's energetic opposition, perhaps, in part, because of it, the prospect of a great congress, comprehending persons of the highest distinction, interested in measures for the prevention of tuberculosis, is eminently encouraging. The "Congress Internationale de la Tuberculosis," which was announced to be held in Paris, September 26th to October 1st, 1904, under the presidency of Prof. Brouardel, one of the Honorary Members of the Medico-Legal Society, and of whom Prof. Dr. M. Letulle, of the Faculty of Medicine, 7 Rue de Magdeburg, is Secretary, out of respect to the American Congress at the St. Louis Exposition, at dates, which, while although not identical, were too near each other to enable the Frenchmen to attend the St. Louis Congress or the Americans to attend the Paris Congress.

The adjournment will accomodate both bodies and enable the International Congress at St. Louis to receive the representatives of the Paris Congress who have been invited to be present.

There has been for many years a great desire to meet Prof. Brouardel on this side of the Atlantic, and it is reasonably hoped that he will attend the International Congress at St. Louis, on October 3d, 4th and 5th, 1904."

NOTES ON TUBERCULOSIS.

For the International Congress on Tuberculosis to be held under the auspices of the Universal Exposition and of the American Congress on Tuberculosis, at St. Louis, October 3d, 4th and 5th, 1904.

[Continued from page 228 of the Bulletin 1902]

AMERICAN CONGRESS ON TUBERCULOSIS.

Office of the Secretary, 116 Nassau St., New York.

To the Editor of the Medico-Legal Journal.

Dear Sir:—I enclose a communication from Prof. Thomas Bassett Keyes, M. D., of Chicago, Ill., one of the vice-presidents at large of the Congress.

Dr. Keyes has been a vice-president of the Congress from its organization in 1900, and was one of the earliest members, and familiar with the early history and labors of the body, and his letter ought to have great weight with members of the medical profession who claim that movements of this character should be limited to medical men alone. Prof. Keyes is a specialist in cases of tuberculosis and a physician of high character and large experience in cases of consumption and diseases of the lungs, and I hope you will give his letter publicity.

Respectfully yours,

SAMUEL BELL THOMAS, Secretary.

Chicago, Ill., October 22, 1903.

Dr. Samuel Bell Thomas, 290 Broadway, New York.

Respected Colleague:—Your letter of July 27th regarding the American Congress on Tuberculosis, was received during my vacation, and on looking over some papers I see that it was unanswered. I trust my delay will be pardoned as I shall take great pleasure in working with the Congress and be pleased to contribute a paper at its St. Louis meeting. I wish to say that I am very much in sympathy with the Congress as it now stands, believing in a very wide scope that will take in every one who is interested in the subject: layman, physician, lawyer, and especially people of prominence, influence and standing, for as much or more aid in this great humanitarian work will come through them. It was on these broad lines that the early societies for the study and prevention of tubercu-

losis were formed, such as the International Anti-Tuberculosis Congress, which opened in the presence of the Queen and King of Italy, at the San Carlo Theatre, Naples, April, 1900, and even conservative England and her medical profession recognized the necessity of interesting people of prominence to aid in the war against tuberculosis, for in the British Congress of Tuberculosis held in 1901, the organizing council contained such names as Lord Strathcona, Sir James Blyth, Sir Ernest Clark and many more, with the Earl of Derby as president. The chairman, in opening the proceedings, said that the enemy which they had to combat was ignorance, and that enemy must be combatted by the same remedies as the disease which so frequently sprang from it. The remedies were light and air—the light of science, the fresh air of public opinion. The Duke of Northumberland moved the first resolution, which was as follows: "In view of the fact that tuberculosis, although a preventable disease, still devastates health and destroys lives in all parts of the world, this meeting consisting of representatives of medical, veterinary, and also principle officials of municipal and county authorities, is unanimously of the opinion that representatives from India and dependencies of the Empire should be invited, and in addition honored guests from other countries."

As chairman of the first organizing committee of this Congress, I may say that it was upon these broad lines that the Congress was intended, and I can see no reason why any member of the medical profession should narrow his views and take exception to this liberal policy, nor how anyone could think to look for a re-organization of the Congress, for it is only upon broad lines that we can expect to successfully war against tuberculosis and stamp it from our midst.

This Congress owes its honor of organization more to Clark Bell, Esq., of New York City, then to all other members combined. It has been through his great efforts and great organizing ability that has given and sustained its life.

Very sincerely,

THOMAS BASSETT KEYES.

CALIFORNIA.

The Governor of California sends the following letter:

Sacramento, October, 12, 1908.

Mr. Clark Bell, Chairman Executive Committee, 39 Broadway N. Y.

My Dear Sir:—Answering your circular letter of September 15th, which I find on my desk on my return to the Capitol. I shall be glad to co-operate, in any way, to control, and if possible, eradicate the scourge of human tuberculosis. And, to that end, will be glad to appoint, at the proper time, delegates to take part in the Congress to be held next year in St. Louis.

If it will benefit the movement you have inaugurated to have me as one of the Honorary Vice-Presidents of the Congress, I shall be very glad to be made one. Kindly send me, from time to time, such literature as you may think will be of interest.

Very truly yours,

GEO. C. PARDEE, M. D., Governor of California.

FLORIDA.

Surgeon R. D. Murray is one of the Vice Presidents of the American Congress on Tuberculosis elected in 1902, and re-elected at the annual meeting of the Congress in 1903.

He is, and has been for many years, a member of the Medico-Legal Society and took a great interest in the founding and organization of this body. The subjoined correspondence shows the interest in the State of Florida in the success of the St. Louis Congress of 1904:

Key West, Fla., August 18, 1903.

E. J. Barrick, M. D., Toronto, Ontario.

Dear Doctor:—In congratulating you on your acceptance of the presidency of the St. Louis Congress on Tuberculosis, I wish to express my regret that I did not hear more of your address at the New York Congress in June, 1903.

The muddling over non-admission of so-called laymen distracted me. I fancied then that we have more medicine than we can use and only need the money of laymen to fairly further the good work. I needed to know more of what you spoke, i. e.: the emulation of monied men in providing sanatoria for those who are sick now, and intended to write you for some data which I might use on our own wealthies, but I was much engaged after my return, and then for six months or so was incapacitated by illness.

The Medico-Legal Journal is not coming to me, although I have been a member of the Medico-Legal Society for twenty years, and thus I was not informed of the Bell-Brown imbroglio. I have proposed long ago to the State Health Officer, Dr. Porter, to have at least two tent camps for our own people, and supported by the State or local money. Dr. Huddleston, of Miami, desires to have the nation pay the bills. I do not propose to ask you for details in munificence now, but to assure you that I will try to watch your work in the hope of helping my people. Although in public service I go on my own lines locally.

Yours sincerely,

R. D. MURRAY,

LOUISIANA.

Governor Beard, of Louisiana, while in full sympathy with the aims and purposes of the congress, feels a delicacy in naming the delegates for the Congress of 1904, for the reason that his term expires shortly, and he hesitates to take upon himself duties that might more properly belong to his successor. His letter is as follows:

Baton Rouge, October 5, 1903.

Mr. Clark Bell, Chairman American Congress on Tuberculosis, 39 Broadway, New York.

Dear Sir:—I am directed by His Excellency, Governor Heard, to acknowledge receipt of your communication of September 15th, requesting his sympathy and co-operation in promoting the Congress to be held at St. Louis, October 3-5, 1904.

The Governor desires to assure you that he is heartily in accord with the noble and humane purposes of your organization, and would be glad to lend his assistance towards its success. He suggests, however, that inasmuch as his term of office as Governor is about to expire, the most good could be accomplished, in the several directions indicated by you, by enlisting the co-operation of his successor, who will be elected in the early part of next year. The date of the Congress being so far distant, the Governor feels that any effort he might make at this time, towards its success, would not be fruitful of the best results. With respect, I am,

Yours truly,

EDW. A. PIKE, Acting Private Secretary.

MISSISSIPPI.

We are glad to announce the delegates from the State Medical Association, of this State. We enclose the letter of the President of the State Medical Association :

Pontotoc, Miss., Dec. 19, 1903.

Hon. Clark Bell, New York.

Dear Sir:—As Requested by Dr. E. J. Barrick, President of the American Congress on Tuberculosis, I send to you the names of delegates from this State:

Dr. H. F. Garrison, Seminary.	Dr. A. J. Hall, Natchez.
Dr. L. W. Crigler, Columbus.	Dr. R. E. Howard, Durant.
Dr. C. M. Taylor, Corinth.	Dr. G. Y. Gillespie, Duck Hill.
Dr. R. M. Sadler, Okolona.	Dr. L. T. Fox, Water Valley.
Dr. W. C. Spencer, Verona.	Dr. E. A. Cheek, Arcola.
Dr. W. W. Robertson, McComb City.	Dr. D. W. Coker, Tunica.
Dr. C. Kendrick, Kendrick.	Dr. W. H. Arnold, Eupora.

With best wishes for the success of this Congress, I am

Yours truly, etc.,

C. D. MITCHELL.

MONTANA.

The State of Montana will sustain the American Congress on Tuberculosis splendidly. Her Governor sends the following letter to the chairman of the Executive Committee:

Helena, Montana, September 29, 1903.

Dr. Clark Bell, Esq., 39 Broadway, New York.

Dear Sir:—I enclose herewith list of delegates appointed this day by me to represent the State of Montana at the American Congress on Tuberculosis, to be convened in the city of St. Louis, Missouri, in October, 1904.

Yours very truly,

J. K. TOOLE, Governor.

Montana delegates to the American Congress on Tuberculosis, World's Fair, at St. Louis, 1904.

Dr. Wm. C. Riddell, Helena.	Dr. T. J. Murray, Butte City.
Hon. Theo. Brantly, Helena.	Dr. W. D. Kingsbury, Dillon.
Hon. Wm. L. Holloway, Helena.	Dr. F. B. Atkinson, Fort Beaton.
Hon. W. W. Dixon, Butte City.	Dr. R. W. Getty, Glasgow.
Hon. Geo. R. Milburn, Helena.	Dr. John H. Hunt, Glendive.
Hon. B. P. Carpenter, Helena.	Dr. E. B. Patterson, Granite.
Dr. T. D. Tuttle, Helena.	Dr. L. Southmayd, Great Falls.
Dr. B. C. Brooke, Helena.	Dr. Gowan Ferguson, Great Falls.
Dr. E. I. Bradley, Helena.	Dr. F. J. Adams, Great Falls.
Dr. T. J. McKenzie, Anaconda.	Dr. F. E. Buchen, Hamilton.
Dr. James Chapple, Billings.	Dr. J. S. Almas, Havre.
Dr. J. H. Rinehart, Billings.	Dr. A. D. McDonald, Kalispell.
Dr. A. L. Ward, Boulder.	Dr. Fred. Treacy, Lewistown.
Dr. Jas. F. Blair, Bozeman.	Dr. W. W. Andrus, Miles City.
Dr. E. D. Leavitt, Butte City.	Dr. J. J. Buckley, Missoula.
Dr. Thos. J. Sullivan, Butte City.	Dr. Geo. H. Putney, Missoula.
Dr. John McIntyre, Butte City.	Dr. E. T. Lutz, Red Lodge.
Dr. Louis Bernhiem, Butte City.	Dr. R. D. Alton, Livingston.

NEW JERSEY.

The Secretary has received the following communication from the Governor of New Jersey:

September 25, 1903.

Mr. Samuel Bell Thomas, Secretary, 116 Nassau St., New York.

Dear Sir:—Governor Murphy desires me to inform you that he has appointed as delegates from New Jersey to attend the American Congress on Tuberculosis to be held at the World's Fair in St. Louis, October 3, 4 and 5, 1904, the persons named in the enclosed list.

Yours very truly,

JOHN L. SWAYZE, Secretary.

LIST OF DELEGATES TO REPRESENT NEW JERSEY AT THE AMERICAN CONGRESS ON TUBERCULOSIS, 1904.

Dr. C. T. Brackett, Princeton.	Dr. James S. Green, Elizabeth.
Dr. Laban Dennis, Newark.	Dr. O. H. Sproul, Flemington.
Dr. Henry Mitchell, Asbury Park.	Dr. Austin Scott, N. Brunswick.
Dr. Henry W. Elmer, Trenton.	Mr. Edwin A. Stevens, Hoboken.
Dr. Charles J. Kipp, Newark.	Mr. F. L. Shepperd, Newark.
Dr. Elmer Barwis, Trenton.	Dr. John D. McGill, Jersey City.
Dr. W. S. Jones, Camden.	Dr. Stephen Pierson, Morristown.

WEST VIRGINIA.

This State has always taken a deep interest in the contest against tuberculosis. Governor Albert B. White has stood foremost among the Governors of the American States who have spared no pains to hold up the hands of the officers of the American Congress on Tuberculosis. He writes as follows:

Charleston, W. Va., October 9, 1903.

Clark Bell, Esq., Chairman Executive Committee, 39 Broadway, New York City.

Dear Sir:—Acknowledging receipt of your letter of last month, and in reply thereto, I have the honor to enclose a list of thirty-

five delegates appointed by me upon your request, to the fourth session of the American Congress on Tuberculosis, to be held at St. Louis, October 3, 4 and 5, 1904. I am with respect,

Very truly yours,

ALBERT B. WHITE, Governor.

List of delegates appointed by Governor Albert B. White, of West Virginia, to the Fourth Session of the American Congress on Tuberculosis, to be held at St. Louis, October 3, 4 and 5, 1904.

Dr. H. A. Barbee, Point Pleasant	Dr. C. L. Muhleman, Parkersburg
Dr. T. L. Barber, Charleston.	Dr. J. M. McLoughlin, Addison.
Dr. H. M. Brown, Union.	Dr. Jessie C. Norris, Fairmont.
Dr. H. J. Campbell, Glenwood.	Dr. Coale Price, May Beury.
Dr. O. O. Cooper, Hinton.	Dr. Joseph L. Pyle, Bearsville.
Dr. Wm. A. Cracraft, Elmgrove.	Dr. Chas. W. Riggs, Cameron.
Dr. Frank T. Dare, Wellsburg.	Dr. W. B. Robertson, Concho.
Dr. N. L. Edwards, Bluefield.	Dr. I. R. LeSage, Huntington.
Dr. W. W. Golden, Elkins.	Dr. W. H. Sands, Fairmont.
Dr. H. F. Gamble, Charleston.	Dr. Cliff. Sperrow, Martinsburg.
Dr. A. S. Grimm, St. Marys.	Dr. H. B. Stout, Parkersburg.
Dr. H. D. Hatfield, Thacker.	Dr. W. J. Davidson, Parkersburg.
Dr. I. N. Houston, Moundsville.	Dr. S. A. Washington, Sewell.
Dr. S. L. Jepson, Wheeling.	Dr. G. R. White, Williamson.
Dr. E. J. Johnson, Middlebourne	Dr. W. T. Willey, Morgantown.
Dr. G. W. Knapp, Richlands.	Dr. John M. Yeager, Marlinton.
Dr. Geo. Lounsbury, Charleston.	Dr. H. H. Young, Charleston.
Dr. R. L. Morrison, Clarksburg.	

WISCONSIN.

Dr. Hugo Philler, Health Commissioner of Waukesha, Wisconsin, and one of the foremost sanitary authorities of the State, accepts the position of Vice President of the Congress for that State. His letter is as follows:

Waukesha, Wis., October 4, 1903.

Clark Bell, Esq., Chairman Executive Board, American Congress on Tuberculosis, 39 Broadway, New York.

Dear Doctor:—I have the honor to acknowledge the information of my appointment to the position of vice-president for the State of Wisconsin, of the American Congress on Tuberculosis. I cheerfully tender my acceptance of the office and will fulfill all duties connected with the office to the best of my abilities.

Very faithfully yours,

HUGO PHILLER.

UNIVERSAL EXPOSITION, ST. LOUIS, 1904.

St. Louis, U. S. A., October 1, 1903.

Mr. Clark Bell, 39 Broadway, New York City.

Dear Sir:—In pursuance of the policy of this Exposition to promote international congresses of Science, Arts and Letters to be held in conjunction with the International Exposition, St. Louis, 1904, I beg to inform you that the committee on congresses has decided to authorize the holding of an International Congress on Tuberculosis, and that the promotion of said Congress has been

placed under the charge of the committee of organization recommended by the American Congress on Tuberculosis, and appointed by us under date of September 4, 1903.

Very truly yours,

HOWARD J. RODGERS.

Department of State, Washington, Nov. 6, 1903.

Clark Bell, Esq., Chairman, etc., American Congress on Tuberculosis, 39 Broadway, New York.

Sir:—I enclose for your information copy of a despatch from the Ambassador at London, stating that the British Government has transmitted to the Governments of Canada, New Foundland and all the British possessions in this Hemisphere, the invitation to take part in the forthcoming Congress on Tuberculosis. I am, sir,

Your obedient servant,

F. B. LOOMIS, Assistant Secretary.

American Embassy, London, Oct. 26, 1903.

Sir:—Referring to your unnumbered instruction of the 16th ultimo, I have the honor to enclose herewith copies of a note which I addressed on the 28th ultimo to the Marquess of Lansdowne relative to the American Congress on Tuberculosis, which is to be held at St. Louis on the 3rd, 4th and 5th of October, 1904, and of His Lordship's reply, from which you will see that a despatch has been addressed to the officers administering the governments of the Colonies mentioned in your instruction, intimating that His Majesty's Government sympathize with the object which the promoters of the Congress have in view, and have no doubt that the invitation will receive the careful consideration of the governments concerned. I have the honor to be, Sir,

Your obedient servant,

JOSEPH H. CHOATE.

The Honorable John Hay, Secretary of State.

American Embassy, London, Sept. 28, 1903.

My Lord:—I have the honor to inform you that the State Department is advised by the Director of International Congresses of the Universal Exposition to be held at St. Louis in 1904, that the American Congress on Tuberculosis has been placed on its list of official Congresses, and that the dates for said Congress will be October 3rd, 4th and 5th, 1904.

The Department is also advised by the chairman of the Committee on Organization of the Congress, that the Executive Committee and officers of the Congress have sent to the government of each American country, including Canada, Newfoundland, and all the other British possessions in the Western Hemisphere, an invitation for official representation by each of such governments in the Congress, and a request is made of the Department to give such support to the invitation as it properly may.

The humanitarian object which this Congress has in view to reach by the discussion of scientific men, some result in averting and arresting the spread, as far as possible, of the ravages of this dreadful disease which now falls with such terrific force and fatality upon the people of the Western Hemisphere, cannot but enlist the sympathy and approval of the Governments referred to.

I am, therefore, requested by my government to advise your Lordship that it is in entire sympathy with the work of the proposed Congress, and would be pleased to learn that the governments of

the Dominion and the other British possessions took a like interest in its success, and that each of those governments would manifest its interest by accepting the committee's invitation, and appointing three or more scientific gentlemen to represent it at the Congress.

My government would also be pleased if those governments could find it convenient to give the matter publicity as requested by the Committee, in order that it may come to the knowledge of interested organizations and public spirited citizens. I have the honor to be, with the highest consideration, etc., etc. etc.

JOSEPH H. CHOATE.

The Most Honorable, the Marquess of Lansdowne, K. G., etc. etc.

Foreign Office, October, 19, 1903.

Your Excellency:—With reference to your note of the 28th ultimo, relating to the invitations to certain British Colonies to send representatives to the Congress to be held at St. Louis in October next, I have the honor to inform Your Excellency that despatches have been addressed to the officers administering the governments of the colonies in question, intimating that His Majesty's government sympathize with the object which the promoters of the Congress have in view, and have no doubt that the invitation will receive the careful consideration of the Governments concerned. I have the honor to be, etc., (for the Marquess of Lansdowne), His Excellency, the Hon. J. H. Choate.

F. A. CAMPBELL.

AMERICAN CONGRESS ON TUBERCULOSIS.

Dundee, N. Y., Aug. 21, 1903.

Sir:—Howard J. Rogers, Esq., Director of Congresses, telegraphs me to day fixing October 3, 4 and 5, as the dates of the American Congress on Tuberculosis for 1904, at the St. Louis Exposition, and asks me to notify you.

I have accepted these dates and ask you take notice of same, and give me your official action so that I can send it out to the foreign governments and the press. With great respect,

Very faithfully yours,

CLARK BELL, Chairman Ex. Com.

To Hon. John Hay, Secretary of State, Washington, D. C.

St. Louis, U. S. A., August 22, 1903.

Mr. Clark Bell, Dundee, New York.

Dear Sir:—Your telegram of the 21st received this morning, and in accordance therewith I have reserved for the International Congress on Tuberculosis October 3, 4 and 5, 1904, for the date of their meeting. I have also notified the Department of State to that effect.

Yours respectfully,

HOWARD J. ROGERS.

PROVINCE OF ONTARIO.

His Worship Mayor Beck of London, on the 30th of September, 1903, sent to the President a letter, of which enclosed is a copy:

Mayor's Office, London, Ontario, Sept. 30, 1903.

Dear Sir:—I am directed by His Worship, the Mayor, to acknowledge the receipt of your favor of the 20th inst., and to convey through you to the council and board of officers, his sincere thanks

for the honor you have done him in appointing him to the position of Vice-President for the Province of Ontario, and which he is pleased to accept.

Enclosed herewith you will find express order for \$2.50, being \$1.00 for membership fee, and \$1.50 for the proceedings of the annual meeting of June, 1903. I remain

Your obedient servant,

C. B. EDWARDS, City Clerk.

To E. J. Barrick, Esq., M. D., President American Congress on Tuberculosis, Toronto, Ontario.

Toronto, August 27, 1903.

R. D. Murray, M. D., Medical Officer in Command, Office of Marine Hospital Service, Key West, Florida.

Dear Doctor:—I am in receipt of your letter of 18th inst., and it is very encouraging to me, and of much help to this great humanitarian movement to know that men in such high positions as you occupy take an interest in this great work.

I may say that the foundation of our Canadian Association for the prevention of consumption and other forms of tuberculosis, was laid broad and deep. We are assured of the co-operation of medical men, lawyers, statesmen, philanthropists, leaders in municipal government, in fact of representative men of all classes, so as to bring the movement in touch with the whole people. All our local organizations are upon the same common basis, so that any one looking at the list of officers, delegates, etc., will at glance see that it is not a purely medical association. Herewith I enclose a copy of the transactions of the last meeting of our National Association. While the membership of our organization has thus widened, our main efforts have been and is the gathering together of all the available forces, marshal them in one grand army and concentrate the efforts upon two practical and attainable ends. We are endeavoring to harness up the federal and provincial and municipal governments, and individual philanthropy in order to educate public opinion, so as to have and to enforce such sanitary measures as will raise public health to a higher plane, to fortify the system against not only the germs of tuberculosis, but the germs of other diseases, and will better prepare it for repairing the ordinary and extraordinary wear and tear of the conflict of life. Secondly, upon bringing a municipal sanatorium within reach of every consumptive in every county municipality. The act respecting such you will please find enclosed, and the enclosed clipping will show what our National Medical Society thinks about it.

The reason I have taken an active part in the American Congress on Tuberculosis is because Clark Bell, LL. D., and his associates, have laid the foundation of that organization on equally broad lines, and are concentrating efforts in a similar direction, and the attempt that was made in 1902 to narrow its foundations and restricting it merely to a medical association, run strictly on medical lines, met with my determined opposition, and what I said then I repeat now, just as soon as the public generally look upon the Congress as a strictly medical society, its usefulness would be killed, as the public would say, this is not in touch with us, it is a medical society.

Instead of parrowing the foundation we are on the other hand widening out so as to get the American Federal, State and municipal government interested by having representatives at the Congress,

especially municipal representatives, as they come more closely to the people who are to be benefitted, and who largely will have to furnish the means to carry out the work.

I hope, therefore, from what I have thus hurriedly written, I may have your approval of my acceptance of the Presidency, and that I may have your sympathy and co-operation in making the Congress at St. Louis, on October 3rd, 4th and 5th, one of the best that has yet been.

I must apologize for the length of this letter but I am anxious to let you know, whether right or wrong, I am working on lines of strong conviction, and with an open mind to adopt such measures as are calculated to be the most potent in checking the spread of this dread disease.

Yours truly,

E. J. BARRICK.

Dr. E. J. Barrick, of Toronto, who has been elected President of the American Congress on Tuberculosis at its annual meeting in June, 1903, at New York, moved a resolution at the evening session urging the introduction by municipalities of municipal sanitariums for consumptives, in accordance with the Ontario Act respecting the same, and requesting that members of the association use their efforts locally to this end, thereby rendering possible government and municipal aid, and co-operation in the work.

In addressing the convention, Dr. Barrick said that any effort to check the spread of tuberculosis must always make adequate provision for the poor. The legislature had passed the act for municipal institutions because any attempt to bring the afflicted to one central place in a province was useless. He, however, did not believe in compulsory action, such as forcing such an institution on any municipality against the wishes of its taxpayers. "In discussing this matter," said Dr. Barrick, "we must ever keep before our minds the fact that the fight against tuberculosis is primarily a campaign of popular education." The passing of the act in 1900 by the Ontario legislature was the first step toward success, the government pledging co-operation in every case to the extent of one-fifth of the cost of land and buildings, and \$1.50 for each patient weekly. The second would be gained when the first municipality provided for the erection of a sanitarium by the vote of its rate-payers. "In Toronto," said the speaker, we have encountered terrible head winds." Referring to the injunction that was granted restraining the Council from voting on this question, the speaker considered that the amendment to the act making it proper to submit it to general vote, was a point gained.

Dr. Barrick then read over for the instruction of other municipalities the conditions that the City Council of Toronto had agreed to for a \$50,000 building, but were prevented from carrying out.

He thought if this sanitarium relief was furnished and a campaign of education regarding general sanitary measures continued, that in five years the mortality from the disease would be reduced 20 per cent., and concluded by saying:

"A municipal sanitarium in each county municipality would be an important local educator, and as the mind of the public became seized of its importance, patients would more readily be persuaded to take advantage of a local institution, where they would not see-

essarily pass out of the care of their own physician, and not out of the reach of their friends, and where their chances of cure and improvement would be greatly increased and the spread of the disease to their friends and the public generally would be materially checked."

The resolution was seconded by Dr. R. W. Powell, of Ottawa, and was supported by Rev. Dr. W. Woore, of Ottawa. It carried unanimously.

It is generally understood that the next meeting of the association will be held in Vancouver, B. C.

ANNOUNCEMENT.

The chairman of the Committee on organization of the International Congress has sent out the following letter to the officials of the Congress and to the Medical Journals, so as to reach the officers, members and the press in advance of the Journal's issue :

**AMERICAN INTERNATIONAL CONGRESS ON TUBERCULOSIS
TO BE HELD OCTOBER 3, 4 and 5, 1904, UNDER THE
AUSPICES OF THE UNIVERSAL EXPOSITION, ST.
LOUIS, 1904, AND OF THE AMERICAN CON-
GRESS ON TUBERCULOSIS.**

Office of the Chairman of the Committee,

39 Broadway, New York, Dec. 22, 1903.

My Dear Colleague:—I enclose copy of my reply to the strictures of the Journal of the American Medical Association of December 12th, which please publish.

United States Senator S. B. Elkins accepts Honorary Membership in the body. I am advised by the Government of the United States that the Government of the Argentine Republic accepts our invitation and will send delegates to the Congress.

The Governor General of the English Colony of Jamaica will also send delegates to the Congress.

Governor George C. Pardee, of California, has accepted an Honorary Vice-Presidency of the Congress.

Dr. Denslow Lewis, of Chicago, and Dr. Wm. E. Quine, of Chicago, have accepted Vice-Presidencies for Illinois, and Prof. Dr. Herman Kornfeld, of Gleiwitz, Silesia, Germany, has accepted the Honorary Vice-Presidency. He is one of the honorary members of the Medico-Legal Society.

The following Honorary Vice-Presidents have been appointed in the Dominion of Canada:

Dr. T. G. Roddick, M. P., Montreal, Quebec.

Sir William Hington, M. D., Montreal, Quebec.

Hon. Senator George A. Drummond, M. D.

James Loudon, President of the University of Toronto.

And the following Vice-Presidents at Large:

Dr. W. P. Cavan, Toronto, Ontario.

Dr. Daniel Clark, Toronto, vice Henry B. Baker, not qualified.

Dr. R. W. Powell, Ottawa, Ontario.

Dr. W. H. Moorehouse, London, Ontario, vice Dr. C. S. Wilbur, not qualified.

The provincial Vice-Presidents are too many in Canada to name here. Vide September and December numbers Medico-Legal Journal for full lists.

Hon. L. A. Emery, of the Supreme Bench of Maine, Professor of Medical Jurisprudence, and Prof. F. N. Whittier, of New Brunswick, Maine, have accepted Vice-Presidencies for Maine.

Prof. Dr. Norman Bridge, of Los Angeles; Prof. Bert Ellis, of Los Angeles; Dr. S. M. Pottenger, of Los Angeles; Dr. A. K. Foster, of Sacramento, Secretary State Board of Health, and Dr. Winslow Anderson, of San Francisco, have accepted Vice-Presidencies for California. Prof. John T. Moore, of the University of Texas, and Dr. Charles Wood Fassett, of St. Joseph, Missouri, have also accepted Vice-Presidencies for those States. Please give this publicity.

Very faithfully yours,

CLARK BELL,

Chairman Committee on Organization of the American International Congress on Tuberculosis.

CONGRES INTERNATIONALE DE LA TUBERCULOSIS, PARIS.

We are glad to be able to announce that this very powerful body, which was announced to meet in Paris, on September 26th to October 1st, 1904, under the Presidency of Prof. Brouardel, one of the Honorary Members of the Medico-Legal Society, and of whom Prof. Dr. M. Letulle, Prof. Aggerge, of the Faculty of Medicine 7 Rue de Magdebourg is Secretary, has decided to postpone its session to the year 1905. Prof. Brouardel had been advised of the action of the U. S. Government respecting the holding of the American Congress at the St. Louis Exposition, at dates, which, while although not identical, were too near each other to enable the Frenchmen to attend the St. Louis Congress or the Americans to attend the Paris Congress.

The adjournment will accommodate both bodies and enable the International Congress at St. Louis to receive the representatives of the Paris Congress as it will be invited to be represented.

There has been for many years a great desire to meet Prof. Brouardel on this side the Atlantic and it is to be hoped that he will attend the International Congress at St. Louis, on October 3d, 4th and 5th, 1904.

The adjournment of the French Congress is most fortunate and opportune. We shall take an early occasion to announce the basis of the Paris Congress on Tuberculosis, which will be divided into two Sections.

I.

(a) New Methods for the Treatment of Lupus.

(b) New Methods for the early diagnosis of Tuberculosis.

(c) Comparative Studies on the different forms of Tuberculosis.

II. THE SOCIAL SECTION.

(a) Aetiological factors in Tuberculosis.

(b) Value of different means for the Treatment of Tuberculosis.

(c) The Voluntary Insurance and the various Insurance bodies and their relation to Tuberculosis.

The Congress will also collect and hold a Museum.

We do not understand that it will consider Preventative Legislation against its spread, or the Medico-Legal questions involved in averting its spread, but we hope it will decide to discuss also these important subjects.

THE SOUTH AMERICAN GOVERNMENT OF THE ARGENTINE REPUBLIC.

We take pleasure in presenting the following communication from the American Secretary of State :

Washington, December 22, 1903.

Clark Bell, Esq., Chairman Committee on Organization, American Congress on Tuberculosis, 39 Broadway, New York.

Sir:—Referring to previous correspondence I enclose for your information copy of a despatch from the United States Legation at Buenos Aires advising the Department that the Government of the Argentine Republic will send delegates to the American Congress on Tuberculosis, which will meet at St. Louis in October next. I am, Sir,

Your obedient servant,

F. B. LOOMIS, Acting Secretary.

Buenos Aires, November 20, 1903.

To the Honorable John Hay, Secretary of State, Washington, D. C.

Sir:—Referring to Department's unnumbered instructions of September 16, last, relative to the American Congress on Tuberculosis to be held at St. Louis, Missouri, October 3, 1904, I have the honor to inform you that on the 28th ultimo, in a note of which a copy is enclosed, I communicated to the Argentine Minister for Foreign Relations the desires of our Government with reference to the participation of the Argentine Republic in the Congress referred to, and that I am to-day in receipt of a reply from Dr. Terry, of which a copy and translation are enclosed, informing me of his Government's determination to appoint a Commission to attend the Congress. I will inform you concerning the personnel of the commission as soon as it shall have been appointed. I have the honor to be,

Your obedient servant,

EDWARD WINSLOW AMES,

Charge d' Affaires ad interim.

Mr. Ames to Minister Terry, Legation of the United States of America.
Buenos Aires, December, 18, 1903.

Mr. Minister:—I have the honor to inform Your Excellency, in pursuance of instructions from my Government, that an American Congress on Tuberculosis will be held at St. Louis, Missouri, on October 3, 4 and 5, 1904, in connection with the Louisiana Purchase Exposition, and that the Executive Committee and Officers of that Congress have sent to the Government of each American country an invitation for official representation by that Government in the Congress.

The Government of the United States of America is in entire sympathy with the work of the proposed Congress and would be pleased to learn that the Government of the Argentine Republic manifested a like interest in its success by the acceptance of the Committee's invitation, and the appointment of three or more scientific gentlemen to represent it at the Congress. The humanitarian object which this Congress has in view, viz.: to reach, by the discussion of scientific men, some result in arresting the spread and averting, so far as it may be found possible, the ravages of this

dreadful disease which now falls with such terrible force and fatality upon the people of the Western Hemisphere, cannot but enlist the sympathy and approval of Your Excellency's Government.

My Government would also be pleased if that of the Argentine Republic could find it convenient to comply with the request of the Committee to give the matter publicity, in order that it may come to the knowledge of interested organizations and public spirited citizens of the Republic.

I take this occasion to renew to Your Excellency the assurances of my highest consideration.

EDWARD WINSLOW AMES,
Charge d' Affaires ad interim.

To His Excellency Senor Doctor Don Jose A. Terry, Minister of Foreign Relations and Worship, Argentine Republic.
Mr. Terry to Mr. Ames (Translation).

Buenos Aires, November 10, 1903.

Mr. Charge d' Affaires:—I have had the satisfaction of receiving your note dated October 28 last, in which, in fulfillment of instructions from your Government, you were pleased to communicate its desire that the Argentine Republic should participate in the American Congress on Tuberculosis to be held at St. Louis, Missouri, on the 3, 4 and 5 of October, 1904.

In reply I take pleasure in informing you that, in view of your courteous communication and of the humanitarian object of the Congress, the Argentine Government has determined to participate in it, as you will see by the accompanying, by virtue of which the delegates which are to represent us will in good time be appointed.

I improve the opportunity to renew to you the assurance of my distinguished consideration.

J. A. TERRY.

To the Charge d' Affaires, of the United States of America.
Department of Foreign Relations and Worship.

Buenos Aires, November 10, 1903.

In view of the communication under date of October 28 last, from the Charge d' Affaires of the United States of America, communicating his Government's desire that the Argentine Republic should be represented at the American Congress on Tuberculosis to be held at St. Louis, Missouri, on the 3, 4 and 5, October, 1904.

The President of the Republic resolves:

That the Government participates in the American Congress on Tuberculosis and that it name in good time the delegates that are to represent it.

Let it be communicated, published in the Boletin Oficial and given to the National Registry.

Roca,

This is a copy.

J. A. TERRY.

L. Ponce, Director of Section (Seal), Argentine Republic, Ministry of Foreign Relations and Worship.

THE DOMINION OF CANADA.

The Government of Canada has referred the recommendations of the English Foreign office, in respect to the delegates to the American International Congress on Tuberculosis at the St. Louis Exposition, to the member of Agriculture, Hon. Sydney Fisher. The delay in the issue of our December number will allow us to send to our readers his letter just received :

DEPARTMENT OF AGRICULTURE, CANADA.

Ottawa, Jan. 4th, 1904.

Dear Sir:—I beg to acknowledge yours of the 30th December in regard to the International Congress on Tuberculosis, to be held at St. Louis next Summer.

I have to inform you that I have recommended to the Government of Canada to send a representative to that Congress.

Yours sincerely,

SYDNEY FISHER.

Clark Bell, Esq., Treasurer American International Congress on Tuberculosis, 39 Broadway, New York, U. S. A.

TEXAS.

T. S. Bennett, M. D., former editor *Texas Sanitarian*, and one of the leading Sanitarians of the state, sends his written acceptance of the position of Vice President for that state and that he will attend the Congress. Dr. Samuel R. Burroughs, of Buffalo, Texas, has been appointed a Vice President from that state.

CANADA.

We are glad to announce that Dr. E. J. Barrick, the President of the American Congress on Tuberculosis, has gained a great victory in the City of Toronto, where he resides. The question of the construction of a Sanitarium for consumptives in Toronto, that Dr. Barrick has so strongly advocated, was submitted to a vote of the people in a most exciting election. The vote for the Sanitarium was carried by a majority of 402 votes. We congratulate Toronto and the Province of Ontario on this result and especially Dr. E. J. Barrick, to whom this victory may be largely credited.

Rev. C. S. Eby, D. D., of Bracebridge, Ontario, has been appointed Vice President at large of the American Congress on Tuberculosis and has accepted.

**THE NEW PRESIDENT OF THE HEALTH
DEPARTMENT OF THE CITY OF
NEW YORK.**

We also have the great pleasure to announce the selection by Mayor George B. McClellan, of Dr. Thomas Darlington for President of the Health Department, who is the Secretary of the Committee on Organization of the International Congress on Tuberculosis.

Dr. Darlington's name is a sure guaranty that the interests of the medical profession has been in entirely safe hands in the organization of the American Congress on Tuberculosis.

Dr. A. N. Bell, of the Sanitarian; Dr. Nicholas Senn, of Illinois; Prof. C. H. Hughes, of St. Louis; Dr. F. E. Daniel, of the Texas Medical Journal, Dr. G. E. Tabor, Health Officer of the State of Texas; Dr. W. F. Drewry, of Va.; Dr. A. P. Grinnell and Dr. H. Edwin Lewis, of Burlington, Vt.; Dr. W. E. Morrow, of Mo.; Dr. John H. Simon, of St. Louis; with Dr. E. J. Barrick, of Toronto, as President, Dr. Thomas Darlington, as Secretary of the Committee on Organization, are members named by the management of the St. Louis Exposition of 1904, and are among those who are on its Committee on Organization. The Medical men need feel no concern, but that the interests of the Medical profession were carefully guarded without the assistance of some who are filling the Medical press with laments that they have not been selected to aid in this great work of Philanthropy. While it must not be expected of Dr. Darlington that he can give in the future much time to official work, his advice, influence and position will be at the service of the Congress.



**THOS. DARLINGTON, M. D., OF NEW YORK,
President Health Department, New York City; Secretary Committee on
Organization of International Congress on Tuberculosis,
appointed by Universal Exposition, St. Louis, 1904.**



HONORARY PRESIDENTS.

Hon. Stephen B. Elkins has been elected an Honorary President of the International Congress on Tuberculosis. He is United States Senator from West Virginia, and regards the Congress from the standpoint of the statesman, and on its sociological aspects. His name will lend great weight to the aims and purposes of the Congress. His letter is as follows:

Washington, December 19, 1903.

Mr. Clark Bell, 39 Broadway, New York.

My Dear Sir:—I thank you for your letter of the 10th instant, notifying me of my appointment as Honorary President of the American Congress on Tuberculosis.

Very truly yours,
S. B. ELKINS.

The committee on organization of the World's Fair Exposition at St. Louis, are considering the prospect of increasing the number of Honorary Presidents of the International Congress of 1904, at St. Louis. There is a strong feeling among the members of the Committee in favor of such action.

The same Committee are also considering the advisability of enlarging the Committee on Organization, and have substantially agreed upon three names from the Dominion of Canada to be added to that Committee.

We are not at liberty yet to mention names, but the propriety of adding representative men to that Committee can not be questioned.

The management of the Universal Exposition has advised the Chairman of the Committee not to recommend names, who have not promised in advance to serve, and to take unusual care in the selection of members of that committee if it is thought advisable to enlarge it.

HONORARY VICE PRESIDENTS.

The following are some of the eminent men who have accepted these positions:

The Governors of twenty-six States of the American Union who accepted that position in writing in 1902, and who were unani-

mously re-elected in June , 1903, and who have, with one solitary exception continued in that position for the forthcoming Congress in St. Louis, in 1904.

Hon. George C. Pardee, Governor of California, whose letter of acceptance has been received and who takes a deep interest in the action.

All the Lieutenant Governors of the Dominion of Canada, except of the Province of Ontario, whose untimely death has occurred, whose place has not yet been filled.

The Governor of Vera Cruz, Mexico, Hon. Theo. A. Dehesa, the Honorary Vice Presidents from the Argentine Republic, Brazil, Costa Rica, Peru, San Domingo and Uruguay all of whom were re-elected.

From the Dominion of Canada the following names have been elected Honorary Vice Presidents and have accepted. Two gentlemen of the Dominion Cabinet, Minister, W. S. Fielding, and ex-Minister, Hon. A. G. Blair.

Dr. T. G. Roddick, M. P. of Montreal.

Sir Wm. Hington, M. D. of Montreal.

Hon. George A. Drummond and Hon. Jas. Loudon, President of the University of Toronto.

NOTES ON TUBERCULOSIS.

For the International Congress on Tuberculosis to be held under the auspices of the Universal Exposition and of the American Congress on Tuberculosis, at St. Louis, October 3d, 4th and 5th, 1904.

DOMINION OF CANADA.

Lord Landsdowne writes the American Ambassador that the Governor of Canada has decided to accept the invitation of the United States Government to send delegates to the St. Louis Congress on Tuberculosis, and to give it publicity.

The chairman of the committee on organization has received the following from the Secretary of State:

Department of State, Washington.

March 4, 1904.

Clark Bell, Esquire, Chairman of the Executive Committee of the International Congress on Tuberculosis, 39 Broadway, New York.

Sir:—With reference to previous correspondence, I enclose herewith copy of a despatch from the United States Ambassador at London, stating that the Canadian Government has accepted the invitation to be represented at the forthcoming Congress on Tuberculosis, and that the Canadian Parliament will be asked to vote a sufficient sum of money for that purpose.

I am, sir,

Your obedient servant,

ALVEY A. ADEE,
Second Assistant Secretary.

Enclosure:

From Great Britain, No. 1, 306.

February 20, 1904.

No. 1306.

American Embassy, London.

February 20th, 1904.

Sir:—With reference to the Department's Instruction, unnumbered, of the 16th of September last in relation to the American Congress on Tuberculosis which is to be held in connection with the St. Louis Exhibition in October, 1904, I have the honor to enclose herewith a copy of a note from the Foreign Office, dated the 18th instant, stating that the Government of Canada will be pleased to accept the invitation to be represented at the Congress and that

the Canadian Parliament will be asked to vote a sufficient sum of money for that purpose. Publicity will also be given to the proposed action of the Government of the Dominion in order that it may come to the notice of interested organizations.

I have the honor to be, sir,

Your obedient servant,

JOSEPH H. CHOATE.

The Hon. John Hay, Secretary of State.

Enclosure:

LORD LANDSDOWNE TO AMBASSADOR CHOATE.

Foreign Office, London.

February 18, 1904.

Your Excellency:—With reference to my note of the 19th of October last, I have the honour to state, for Your Excellency's information that the Government of Canada will be pleased to accept the invitation of the United States Government to be represented at the American Congress on Tuberculosis to be held in connection with the St. Louis Exhibition, and that the Canadian Parliament will be asked to vote a sufficient sum of money for the purpose.

Publicity will be given to the proposed action of the Government of the Dominion in order that it may come to the knowledge of interested organizations.

I have the honor to be, etc.,

(For the Secretary of State).

F. A. CAMPBELL.

His Excellency,

The Hon. J. H. Choate, etc.

CALIFORNIA.

Among the many sympathetic letters from the various sections of the country none gives us greater pleasure than that of Dr. Alfred E. Regensburger, of San Francisco, who has been for many years one of the members of the Medico-Legal Society, and has been identified in the past with its work, especially in the Congresses it has held on medical jurisprudence. He writes as follows:

San Francisco, Cal., March 1, 1904.

Dr. Clark Bell, New York City.

My Dear Friend:—Enclosed please find a postal money order for the sum of three dollars, in payment of dues to the New York Medico-Legal Society for the year of 1904, and for dues to the International Congress on Tuberculosis to be held in St. Louis in October, 1904. Kindly return to me receipted bills for the same. I do hope that you will make a grand success of the Tuberculosis Congress, as you and the congress have been so unjustly criticised; assailed is a better word. You have undertaken a great work, in calling into life and organization this congress, and because others were asleep while you were up and doing, therefore, you have encountered the opposition of some. The result will show that both the legal and medical professions will sustain you and the congress. Wishing, again, all success to you and to the congress, I remain,

Yours most respectfully,

ALFRED E. REGENSBURGER.

CANADA.

The enclosed letters from the Provincial Secretaries of Ontario and Quebec, and from the new Secretary of the Provin-

cial Board of Health, who succeeds by the way, our esteemed friend Dr. Bryce, show the interest our Canadian cousins feel in the approaching Congress.

Provincial Secretary's Department, Secretary's Office.

Quebec, 29th March, 1904.

Clark Bell, Esq., M. D., Chairman Executive Committee and of Board of Executive Officers, 39 Broadway, New York, U. S. A.

Sir:—I have the honour to acknowledge the receipt of your letter of the 21st inst., and to inform you that I have much pleasure in accepting the position tendered me in connection with the Congress of 1904 of the American International Congress on Tuberculosis.

Yours very truly,

AMANDE ROBITAILLE,

Provincial Secretary.

Toronto, March 31st, 1904.

Sir:—I have the honor to acknowledge the receipt of your favor of the 21st inst., notifying the Hon. J. R. Stratton, Provincial Secretary of his appointment to the position of Honorary Vice-President of the Province of Ontario for the Congress of 1904.

I am directed by the Honorable the Minister to acknowledge the same with thanks, and to inform you of his cordial acceptance of the honor conferred upon him. I have the honor to be, Sir,

Your obedient servant,

CHAS. A. HODGETTS,

Secretary.

Clark Bell, Esq.,

Treas. and Chairman Executive Committee,
39 Broadway, New York.

Toronto, March 31st, 1904.

Sir:—I have the honor to acknowledge with thanks the receipt of your favor of the 21st inst., informing me of my appointment to the position of Honorary Vice-President for the Province of Ontario for the Congress of 1904.

It is with pleasure I accept the honor conferred upon me, and I sincerely trust that the coming Congress may very materially advance the cause of those who are honestly endeavoring to prevent the spread of what is now known to be "the white plague."

Again thanking you for the honor, believe me, with kind regards,

Yours truly,

CHAS. A. HODGETTS,

Secretary.

Clark Bell, Esq.,

Treas. and Chairman Executive Committee,
39 Broadway, New York.

The following action was taken by the Executive Board on March 17, 1904, upon the letter of Prof. Benedikt and other subjects:

OHIO.

Geo. Stockton, M. D., Supt. of the State Hospital for the Insane, at Columbus, Ohio, has been appointed a Vice-President for the State of Ohio, of the American International Congress. His letter of acceptance is as follows:

Columbus State Hospital,

Columbus, Ohio, April 26th, 1904.

Hon. Clark Bell, 39 Broadway, New York.

Dear Sir:—Your letter received this morning, and I feel very highly honored by being selected as one of the Vice-Presidents of the American International Congress on Tuberculosis.

Last year I had on our grounds a camp for the care of the tubercular insane. This was the first effort of the kind made in Ohio, to test the out of door treatment of this disease. I will take pleasure in forwarding you a report of the results we obtained, and I wish to say that they were so satisfactory to the board of trustees and myself that we are extending our plant this year very extensively. Last summer we had under treatment altogether about thirty-six cases (women). This year we expect to care for about fifty cases (females), and expect to erect two tents for men to accommodate about fifty-two men. Making allowance for the changes which necessarily take place in an institution of this kind, we will probably have over one hundred and fifty cases receiving the benefit of the out of door treatment.

If you happen to be in Columbus, I would take very great pleasure in showing you our camp.

It would be almost impossible for me to say just now whether I can attend the Congress, in St. Louis, in October, or not. I will make an effort to do so, however, and will let you know later on if I can contribute anything, in the way of a paper, for the meeting. The American Psychological Association meets in St. Louis the latter part of May, and I will probably attend that.

Thanking you very cordially for your courtesy, and the compliment extended to me, I remain

Very truly yours,

GEORGE STOCKTON.

MICHIGAN.

Delegates to the American International Congress on Tuberculosis, appointed by Hon. Aaron T. Bliss, Governor of Michigan:

Dr. Ernest L. Shurley, Detroit.
 Dr. Oscar Le Seure, Detroit.
 Dr. F. Lydston Newman, Detroit.
 Dr. Charles T. McClintock, Detroit.
 Dr. Charles G. Jennings, Detroit.
 Dr. Lyman W. Bliss, Saginaw.
 Dr. Joseph H. Cowell, Saginaw.
 Dr. Victor C. Vaughn, Ann Arbor.
 Dr. George Dock, Ann Arbor.
 Dr. Oscar R. Long, Ionia.
 Dr. Henry C. Maynard, Hartford.
 Dr. B. D. Harison, Sault St. Marie.
 Dr. J. B. Whinery, Grand Rapids.
 Dr. Benjamin E. Horner, Lake Odessa.
 Dr. H. J. Hartz, Detroit.
 Dr. Louis J. Rosenberg, Esq., Detroit.

AMERICAN INTERNATIONAL CONGRESS ON TUBERCULOSIS, SEASON of 1903-1904.

Office of the Treasurer and Chairman Executive Committee,
 39 Broadway, New York City.

New York, March 17, 1904.

At a meeting of the Executive Board of Officers, held this day, at the office of the Chairman of the Committee on Organization, it was unanimously

Resolved, That the names of Professor Adam H. Wright, M. D., of the University of Toronto, Editor of the Canadian Practitioner, and Dr. John Ferguson, M. D., Editor of the Canada Lancet, be and are hereby added to the Committee on Organization of the American International Congress on Tuberculosis.

It was also unanimously

Resolved, That to relieve Dr. Thomas Darlington, the President of the Board of Health of the City of New York from the clerical labors of the office of Secretary, to which he was unanimously chosen before his appointment by the Mayor of the City of New York to the Presidency of the Board of Health, under which great and arduous duties now fall upon him, that the names of Moritz Ellinger, Chairman of the Council, and Prof. Adam H. Wright, of the University of Toronto and Vice-President of the Congress, be and are hereby elected as Secretaries of the Committee on Organization to do the active work and relieve Dr. Darlington.

It was also unanimously

Resolved, That the name of Prof. Dr. Herman Kornfeld, of Gleiwitz, Silesia, be appointed an Honorary Vice-President of the Congress and that the President of the Congress and Committee on Organization be and are hereby empowered to appoint nine more Honorary Presidents on receiving their consents and not to exceed twenty-one additional names on the Committee on Organization.

The Chairman laid before the Committee the letter of Prof. Benedikt and the open letter accompanying the same received this day.

It was also unanimously

Resolved, That the offer to surrender the office of Honorary President therein contained only adds new lustre to the nobility of his character and that his re-election lends dignity and force to the American International Congress and that this action be sent to Prof. Benedikt.

Witness our hands:

E. J. BARRICK, President.
CLARK BELL,
Chairman of Ex. Board and Comm. on Organization.
M. ELLINGER,
Chairman of Council.
SAMUEL BELL THOMAS.
Secretary.

RHODE ISLAND.

The Hon. Lucius F. C. Garvin, Governor of Rhode Island, accepts the position of Honorary Vice-President of the Congress, and announces that he will be present at the Sessions of the Congress in October and make a brief address.

THE COMMITTEE ON ORGANIZATION OF THE AMERICAN INTERNATIONAL CONGRESS ON TUBERCULOSIS.

The names recently announced on the committee are: Prof. Dr. Adam H. Wright, of the University of Toronto and Vice-President of the Congress for the Province of Ontario. Dr. John Ferguson, of Toronto, Editor of the Canada Lancet, and one of the foremost Canadian physicians who is also a Vice-

President for the Province of Ontario. Dr. Matthew M. Smith, of Austin, Managing Editor of the Texas Medical News, Secretary of the State Board of Medical Examiners, and who is a member of the Committee on Censorship of Papers for the Congress and of the Standing Committee on Sanatoria. Dr. Alfred E. Regensburger, of San Francisco, California, one of the Vice-Presidents for the State, and an old time member of the Medico-Legal Society.

COLORADO.

The Governor of Colorado, Hon. Jas. A. Peabody, accepts the Honorary Vice-Presidency of the Congress, and has requested the management to submit names for delegates.

The Governor of Colorado has appointed the following delegates to the American International Congress on Tuberculosis, to be held at St. Louis, October 3, 4 and 5, 1904:

Dr. L. E. Lemon, 1742 California Street, Denver, Colorado.
 Dr. B. S. Galloway, 224 Majestic Building, Denver, Colorado.
 Dr. S. G. Bonney, 1437 High Street, Denver, Colorado.
 Dr. R. W. Corwin, Minnequa Hospital, Pueblo, Colorado.
 Dr. Hubert Work, Pueblo, Colorado.
 Dr. J. N. Hall, 308 Jackson Building, Denver, Colorado.
 Dr. C. A. Arnold, Colorado Springs, Colorado.
 Dr. C. H. Scott, Breckenridge, Colorado.
 Dr. R. F. Graham, Greeley, Colorado.
 Dr. Charles Denison, 1625 Logan Avenue, Denver, Colorado.
 Dr. H. C. Wetherill, 1632 Welton Street, Denver, Colorado.
 Dr. Frank N. Carrier, Canon City, Colorado.
 Dr. O. M. Gilbert, Boulder, Colorado.
 Dr. P. O. Hanford, Surgeon-General, C. N. G., Colorado Springs, Colorado.
 Dr. Wilbur T. Little, Canon City, Colorado.
 Dr. W. C. Mitchell, 609 California Building, Denver, Colorado.
 Dr. J. E. MacNeill, Clayton Block, Denver, Colorado.
 Dr. R. C. Robe, Pueblo, Colorado.
 Dr. Charles H. Wilkinson, Canon City, Colorado.
 Dr. A. L. Davis, Durango, Colorado.
 Dr. J. E. Courtney, 756 Ogden Street, Denver, Colorado.
 Dr. C. E. Cooper, Secretary State Board of Health, Denver, Col.
 Dr. Earl D. McGill, Wray, Colorado.
 Dr. Charles F. Andrew, Longmont, Colorado.
 Dr. Perry Jaffa, Trinidad, Colorado.
 Dr. E. A. Whitmore, Leadville, Colorado.
 Dr. H. R. Bull, Grand Junction, Colorado.
 Dr. A. P. Kendig, Rocky Ford, Colorado.
 Dr. H. S. Torrance, Cripple Creek, Colorado.
 Dr. J. C. Shipman, Sterling, Colorado.

TEXAS.

Owing to the fact the President of the State Medical Society was one of the officers of a rival organization and was actively opposing any Congress at St. Louis in 1904, he was not invited to name the medical delegates from that State. A committee was named, composed of the prominent officials

of the Congress from that State to nominate medical delegates from that great State. That committee reported, naming 41 delegates from Texas, who were notified, and asked if they would accept. Favorable replies have already been received from more than half the delegation; only one declination, and that for private reasons. When the replies are all in, the names of those accepting will be announced.

This plan will be followed in those States where the enemies of a St. Louis Congress are active, so that every State will be represented in the Congress by medical men of the highest standing.

The editor of this Journal has upon the invitation of the Committee, prepared a paper for the annual meeting of the State Medical Association of 1904, entitled "Preventive Legislation in Forensic Medicine."

NEBRASKA.

Dr. J. H. Tyndale, of Lincoln, Nebraska, one of the Vice-Presidents at Large, writes: That he will attend the Congress at St. Louis, and that all is working harmoniously in that State for a great meeting in October at St. Louis.

IOWA.

Dr. A. M. Linn, ex President of the State Board of Health of Iowa, who attended the annual meeting of the Congress in 1902, in New York, was elected one of the Vice-Presidents of this Congress at the annual meeting of June, 1903, and accepted.

He writes favorably as to an increasing interest in that State and an able delegation.

In the Congress of 1902, Iowa was most ably represented on the floor by Dr. J. J. Gibson, then State Veterinary Surgeon; Hon. J. M. Emmert, M. D., State Senator; Dr. J. G. Shrader, then President of the State Board of Health, all of whom are now Vice-Presidents of the Congress.

Iowa takes a deep interest in the subject and will be ably represented.

PATHOLOGICAL AND BACTERIOLOGICAL.

Prof. Dr. Von Schroen's paper on the Pathology and Bacteriology of Tuberculosis, the scope of which is illustrated best by the head notes of his subjects that will appear in another column of the Journal, with that of Prof. Dr. Benedikt's paper on the "Toxins of Tuberculosis," will present subjects

worthy of discussion by the ablest talent in Pathology and Bacteriology in our country.

Only the ablest students would be competent to discuss either of these papers, and these will be invited, or some of them.

The questions and problems presented by the eminent Genoese Professor, Edgardo Marigliano, as to vaccination against tuberculosis, now enter the arena of research, and the views of Behring and his followers are assailed.

We call upon all the actual workers; the students themselves in the laboratories, to take part in this discussion, quite irrespective of whether they are medical men or not.

Many of the best and most valuable observers are those men in the laboratories, who are and have been doing this work for our Boards of Health and private sanitariums. The very names of some of these are unknown. It is to these men we must look for the scientific discussion of these questions.

The opinions of the medical officials who employ them are not of value. It is the man of original study and research that must now come to the front and participate in the actual laboratory work needed to be done.

HONORARY PRESIDENTS.

Prof. Dr. Von Babe, of the Bacteriological Institute, at Bucharest, Roumania, one of the ablest authorities in their domain, has been elected an Honorary President of the American International Congress on Tuberculosis, and has accepted and will be present at the Congress next October.

HONORARY VICE PRESIDENTS.

Prof. Dr. Herman Kornfeld, of Gleiwitz, Silesia, one of the honorary members of the Medico-Legal Society, takes a deep interest in Forensic Medicine. His specialty has been in mental medicine rather than in tuberculosis, but he is a student of medical jurisprudence and would be of value, as to prevention legislation and the germane questions. He contributed a paper to the Congress of 1902, and he has been named as honorary vice president for Silesia to the present Congress.

AMERICAN INTERNATIONAL CONGRESS
ON TUBERCULOSIS.

To be held October 3rd, 4th and 5th, 1904, under the
auspices of the Universal Exposition, at St. Louis, 1904,
and of the American Congress on Tuberculosis.

Honorary Presidents :

Lay.

Hon. John Hay,
Hon. Gen. Russell A. Alger,
Hon. Ex-Judge A. H. Dailey,
Hon. Judge C. G. Garrison,
Hon. Stephen B. Elkins.

Medical.

Prof. Dr. M. Benedikt,
Dr. A. N. Bell,
Prof. Dr. Chas. H. Hughes,
Gen. Presley M. Rixey, M. D.
Gen. Nicholas Senn, M. D.

Officers :

President, E. J. Barrick, M. D., Toronto, Ontario.
First Vice-President, F. E. Daniel, M. D., Austin, Texas.
Second Vice-President, Ex-Chief Justice, L. Bradford
Prince, Santa Fe, N. M.
Third Vice-President, Dr. Charles K. Cole, Helena,
Montana.
Fourth Vice-President, Dr. Sofus B. Nelson, Pullman,
Washington.
Fifth Vice-President, Dr. A. M. Linn, Des Moines, Iowa.
Secretary, Samuel Bell Thomas, 116 Nassau Street,
New York.
Treasurer, Clark Bell, 39 Broadway, New York.

Council :

Moritz Ellinger, Esq., Chairman.
J. Mount Bleyer, M. D., New York City.
A. P. Grinnell, M. D., Vermont.
H. Edwin Lewis, M. D., Vermont.
Richard J. Nunn, M. D., Georgia.
W. F. Drewry, M. D., Virginia.
M. K. Kassabian, M. D., Pennsylvania.
J. W. P. Smithwick, M. D., North Carolina.

New York, Sept. 21, 1903.

To the Officers, Delegates and Members of the American Congress on Tuberculosis:

It affords the Executive Officers of the American Congress on Tuberculosis great pleasure to announce the reception of the following letters from the Government of the United States, Department of State:

"Department of State,

Washington, August 29th, 1903.

Clark Bell, Esq., Chairman of the Executive Committee of the American Congress on Tuberculosis, 39 Broadway, New York.

Sir:—Referring to the correspondence which the Department has recently had with you concerning the desire of the Committee on Organization of the proposed American Congress on Tuberculosis to be held at St. Louis, in October, 1904, to have this Government give its support to the invitation which the Committee has addressed to each American Government to be represented at the Congress, I enclose herewith a draft of an instruction to each diplomatic representative of the United States in the Western Hemisphere. The Department will be pleased to consider any changes in, or addition to the draft, you may suggest. I am, Sir, Your obedient servant,

F. B. LOOMIS, Assistant Secretary."

"Department of State,

Washington, Sept. 18, 1903.

Clark Bell, Esq., Chairman Executive Committee, American Congress on Tuberculosis, 39 Broadway, New York City.

Sir:—I have to acknowledge the receipt of your letter of the 31st ult., and to inform you that the instructions to the Diplomatic Officers of the United States accredited to the Central and South American States, Mexico, Haiti and San Domingo have been sent in the language of the draft submitted to you on August 29th, but amended in the particular suggested in your letter under acknowledgment.

Instructions of the same tenor with regard to the British, French, Dutch and Danish Colonial Governments have gone to our Ambassadors at London and Paris, and our Ministers at the Hague and Copenhagen respectively.

In the hope that these instructions will result in a full representation by the American States and Colonial Governments at the Congress on Tuberculosis at St. Louis next year, I am, Sir,

Your obedient servant,

ALVIN A. ADEE, Acting Secretary.

"Department of State,

Washington, Nov. 3, 1903.

Clark Bell, Esq., Chairman, etc., American Congress on Tuberculosis, 39 Broadway, New York.

Sir:—I have to acknowledge the receipt of your letter of the 28th ultimo, and to state in reply that this Department has no objection to your printing the correspondence it has had with you in regard to the American Congress on Tuberculosis and the instructions it sent to the diplomatic officers on the subject.

The text of the instructions to the diplomatic representatives to the American Republics, as printed in the proof which you submit, has been corrected to correspond with the text as sent.

I enclose, as you request, a copy of the instructions sent to Ambassador Choate. The instructions to France, Denmark and the Netherlands are mutatis mutandis in the same language.

The Department will advise you of the replies as they are received. I am, Sir,

Your obedient servant,

FRANCIS B. LOOMIS, Assistant Secretary."

The Chairman of the Executive Committee felt that it was impossible to improve upon the admirably prepared proposed instructions, but suggested as an amendment the omission of a single clause in a portion of one sentence which the State Department concurred in, and the text of the instructions and accompanying papers as sent is as follows after the amendment suggested :

"Sir:—The Department is informed by Mr. Howard J. Rogers, Director of International Congresses of the Universal Exposition to be held in St. Louis in 1904, that the American Congress on Tuberculosis has been placed on its list of official Congresses and that the dates for said Congresses will be October 3, 4 and 5, 1904.

The Department is also advised by Mr. Clark Bell, Chairman of the Committee of Organization of the Congress, that the Executive Committee and Officers of the Congress have sent to the Government of each American Country an invitation for official representation by that Government, in the Congress; and the request is made of the Department to give such support to the invitation as it properly may.

The humanitarian object which this Congress has in view to reach by the discussion of scientific men, some result in arresting the spread and averting, so far as it may be found possible, the ravages of this dreadful disease which now falls with such terrible force and fatality upon the people of the Western Hemisphere, cannot but enlist the sympathy and approval of the Government to which you are accredited.

The Department will, therefore, be pleased to have you say to that Government that this Government is in entire sympathy with the work of the proposed Congress, and would be pleased to learn that the Government oftook a like interest in its success by the acceptance of the Committee's invitation and the appointment of three or more scientific gentlemen to represent it at the Congress.

This Government would also be pleased if that of..... could find it convenient to comply with the request of the Committee to give the matter publicity in order that it may come to the knowledge of interested organizations and public spirited citizens of that country. I am, Sir,

Your obedient servant,

&c., &c.

This splendid expression of the Sympathy of the Government of the United States insures a cordial reception of our work in the nations of the Western Hemisphere.

The Governor of Missouri has made the appointment of thirty-six delegates to represent that great State at whose Chief City it will be the host of the delegates from all parts of the entire Western Hemisphere. The State Board of Health of that State has already named its delegates to that Congress.

The State Medical Society of Georgia has already selected and named its delegates to attend that Congress, and while this State, had then no Board of Health, steps have been taken to secure a suitable and representative delegation from a State that has been among the foremost in its support of the efforts of this body. The Governor of New Jersey has named delegates from that State.

The remaining Governors of the American States will also be invited and the invitation has been delayed until the Government of the United States has taken this splendid and sympathetic action, which evinces and illustrates the paternal policy of our Government in aiding every effort for the protection of the health and the lives of our people when menaced from any form of disease that Science has found to be communicable and preventible.

We assure you that every indication now points to a great meeting at the session of the American Congress on Tuberculosis at the World's Fair at St. Louis in October, 1904, and we invite the co-operation of every philanthropic mind and the accession of men of the Medical profession as well as those of the law, Judges, Jurists and students of every branch of scientific inquiry who can in any way aid in securing preventive legislation in aid of our work.

E. J. BARRICK, M. D., President.

CLARK BELL, Chairman Executive
Committee and Board of Officers.

MORITZ ELLINGER,

SAMUEL BELL THOMAS, Sec'y. Chairman of Council.

UNIVERSAL EXPOSITION, St. Louis, 1904.

Office of the Chairman Committee on organization International Congress on Tuberculosis, D. R. Francis, President; Howard J. Rodgers, Director of Congress.

New York, Dec. 1, 1903.

Dear Colleague:—The Management of the World's Fair Universal Exposition at St. Louis, 1904, has appointed a Committee on Organization selected from prominent members and officials of the American Congress on Tuberculosis since the preceding announcement was made, of which the undersigned was made Chairman, for the purpose of organizing an International Congress on Tuberculosis, to be held at the same time and place at St. Louis, 1904, under the auspices of the Universal Exposition, at St. Louis, 1904, of the American Congress on Tuberculosis.

The Governor of the State of Missouri has appointed 36 delegates; Minnesota, 15; Montana, 36; New Jersey, 14; West Virginia, 35; and the Governors of other States write that they will do so.

Of Foreign Governments we are advised by the Secretary of State of the United States that the following Governments have accepted and will name delegates, viz: Ecuador, Guatemala, Honduras, Venice, San Domingo; and that all the Governments in the Western Hemisphere have received the invitations and instructions as sent by the American Ambassadors and Ministers. The Committee on Reorganization met on Nov. 10, 1903, and organized an International Congress on Tuberculosis, and elected officers as heretofore announced, with a few exceptions of gentlemen who had declined, and arranged for the Standing Committees and adjourned to meet in the near future, after considering the questions of enlarging the Committee on Organization, the Honorary Presidents, and whether the European, Asian and African countries should be advised to send representatives.

Very faithfully yours,

CLARK BELL,

Chairman Executive Committee and of Board of Executive Officers.

UNIVERSAL EXPOSITION, ST. LOUIS, 1904.

INTERNATIONAL CONGRESSES.

American International Congress on Tuberculosis.

Office of the Chairman Committee on Organization, and of the
Board of Executive Officers, 39 Broadway, New York City.

New York, April 30, 1904.

To the Members of the Medico-Legal Society,

Active, Honorary and Corresponding, and to the Members of the
Various Sections of the Society:

The management of the American International Congress on
Tuberculosis have invited the Medico-Legal Society to sit in joint
session, with this body, at the approaching session of the Congress
at St. Louis, October 3rd, 4th and 5th proximo, as has been done
since the American Congress on Tuberculosis was founded under
the auspices of the Medico-Legal Society in 1900.

The invitation has been accepted.

Every member of the Society has thus the right to become a
member of the Congress, contribute to its labor on paying a mem-
bership fee of \$1.00, which entitles them to the privileges of the
Congress and to a seat and vote.

Those who desire to avail themselves of this privilege will please
send names and addresses and remit \$1.00, will receive a mem-
ber's certificate, which extends to members of the Section and to
all members.

Those wishing to contribute papers, take part in the discussion,
or serve on any of the Standing Committees, will advise the officers
as early as possible. Titles of papers with an abstract of same for
use of Committee on Censorship of Papers, should be forwarded as
early as possible to insure a place on the programme.

Respectfully,

E. J. BARRICK, President.

MORITZ ELLINGER,

Chairman of Council.

CLARK BELL,

Chairman Committee on Organi-
zation of Executive Committee.

SAM'L BELL THOMAS,

Secretary.

HONORARY VICE-PRESIDENTS OF THE ST. LOUIS CONGRESS.

As we go to press we received the notice of acceptance of the
position of Honorary Vice-President of

Prof. Dr. Carl Fluegge, Prof. of Hygiene and Director of the University of Breslau, in Germany, and Privy Medical Councillor, who will contribute a paper to the Congress.

Prof. Dr. Josef Korosy, Director of the Statistical Bureau, Buda Pesth, Hungary.

VICE-PRESIDENTS FOR STATES.

Major Jas. Evelyn Pilcher, U. S. A., L. H. D., Editor Journal of the Association of Military Surgeons, Carlisle, Pa., for the State of Pennsylvania.

Dr. August C. Kinney, Vice-President for Oregon, Astoria, Oregon.



HON. A. E. FORGET,
Lieutenant Governor Northwest Province of Canada,
Honorary Vice President American Congress on Tuberculosis.

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NOTES ON TUBERCULOSIS.

For the International Congress on Tuberculosis to be held under the auspices of the Universal Exposition and of the American Congress on Tuberculosis, at St. Louis, October 3d, 4th and 5th, 1904.

CANADA—THE NORTHWEST TERRITORIES.

Hon. A. Forget, Lieutenant Governor of the Northwest Territories of Canada, in accepting his re-election as Honorary Vice-President for the American International Congress on Tuberculosis, writes the following kind and sympathetic letter:

Government House, Regina, 30th May, 1904.

Dear Sir:—Referring to your communication of the 10th March, 1904, relating to the American Congress on Tuberculosis, to be held at St. Louis, in October next, I thank you for your invitation to deliver an address, on such an important occasion, and regret very much my inability to be present. I accept, with pleasure, the office of Honorary Vice-President your Executive is good enough to offer me.

In regard to your request that I should send a delegate or delegates to the Congress, I may say that I have made your wishes, in this respect know to Premier Haultain, the head of my Government, and as he is an officer of an organization with similar objects in view as the American Congress on Tuberculosis, I am sure a sympathetic consideration will be given to your proposal.

I congratulate the officers of the American Congress on Tuberculosis on availing themselves of the opportunity afforded by the great gathering, at St. Louis, in October next, to continue the "campaign of education," relating to the important questions to be discussed, that was so worthily begun, by them, two years ago. There is, perhaps, no other disease that possesses such a sad interest for humanity as attaches to Tuberculosis. Its wide prevalence, especially in the Western Hemisphere, and its insidious character and its destructive effects, particularly among the young, lends a pathos to all that think, on the subject, that arouses the warmest sympathy.

The subject is one that appeals to the co-operation alike of the scientist, the philanthropist, and the legislator. The last of these however, can hardly be expected to act until the scientist and the sociologist, point the way. What is wanted is the collecting together of the fullest information, followed by the freest discussion, under enlightened medical guidance. The coming Congress will provide the precise means for this method of dealing with the question. It should not be forgotten that medical opinion is continually undergoing change, with the advance of science, and the application of more accurate methods of investigating, and it must be admitted that knowledge of the dread disease, and of its remedies, is still far from complete. I hope, as I believe, that the means taken by your organization, are in the proper direction, and cannot fail to discover methods of alleviating the suffering caused by this terrible malady. It is for the scientist to inform us on the origin and causes of Tuberculosis, and to indicate either a preventive, or a cure, or both; the office of the philanthropist is to assist in those measures that all may take of preventing its spread, and when the principles that should guide action, in both directions, are recognized and fixed, then it will be for the legislator to give effect to those principles, to the fullest possible extent. I wish the Congress every success. I remain

Yours truly,

A. FORGET, Lieutenant Governor, N. W. T.
Clark Bell, Esq., Chairman of the Executive Committee of American
Congress on Tuberculosis, 39 Broadway, New York, U. S.

CUBA.

Dr. Joaquin L. Jacobsen, President of the Cuban League Against Tuberculosis, of Havana, Cuba, has been appointed Honorary Vice-President for Cuba of the American International Congress on Tuberculosis, and send the following letter of acceptance:

Havana, June 7, 1904.

Mr. Clark Bell, Chairman of the Committee on Organization of the Board of Executive Officers:

Dear Sir:—I have received your favor of the 17th of May, and I sincerely appreciate your kindness for having appointed me Vice-President for Cuba, at the Congress of Tuberculosis and with the greatest pleasure I accept this honor.

I intend to send a paper on Tuberculosis, and will appoint a Delegate of the Cuban League also. I mean to spend some time at St. Louis this summer and will possibly attend the Congress.

Respectfully yours,

JOAGUIN L. JACOBSEN,
President of the Cuban League Against Tuberculosis.

Governor, the Hon. Manuel Yero Sagol, of the Province of Santiago, Cuba, has been appointed Honorary Vice-President from that Province for the American International Congress on Tuberculosis of 1904, at St. Louis, and has accepted. He writes as follows:

The Governor of the Province of Santiago de Cuba,
June 7, 1904.

Dr. A. M. Fernandez de Ybarra, New York City, Secretary for the Spanish-Speaking Countries in the American International Congress on Tuberculosis:

Respected Sir:—I have received your esteemed letter, dated the 20th of last month, in which you inform me of my appointment as Honorary Vice-President of the Congress on Tuberculosis, inviting me at the same time to be present at its meeting, in St. Louis. I willingly accept the honor conferred upon me, and if it is possible for me, I shall be there, and if not, I will send you a suitable communication to be read before the Congress.

I am, with the greatest consideration,

Yours very truly,

(Signed) MANUEL YERO SAGOL.

A. M. Fernandez de Ybarra, M. D., has been appointed Secretary of the American International Congress for correspondence with all the Spanish-speaking Governments.

PROVINCE OF SANTA CLARA.

Secretary Fernandez de Ybarra has sent the following translation of the reply of the Governor of the Province of Santa Clara, Cuba, Hon. Jose M. Gomez, accepting the position of Honorary Vice-Presidency for that Province:

302 Second Avenue, New York, June 2, 1904.

Clark Bell, Esq., Chairman Committee on Organization, and of the Board of Executive Officers of the American International Congress on Tuberculosis, 39 Broadway, New York City.

Dear Sir:—The following is the translation of the letter of acceptance received from the Civil Governor of the Province of Santa Clara, Island of Cuba, regarding his appointment as one of the Honorary Vice-Presidents of the coming American International Congress on Tuberculosis.

Very faithfully yours,

A. M. FERNANDEZ DE YBARRA, M. D.,
Secretary for all the Spanish-Speaking Countries.

TRANSLATION.

Santa Clara City, Cuba, May 26, 1904.

Very Respected Sir:—I have received your courteous letter, dated the 20th inst., in which you inform me that I have been appointed by the Chairman of the Committee on Organization and of the Board of Executive Officers one of the Honorary Vice-Presidents of the American International Congress on Tuberculosis. I very gladly accept that honor, and promise you to earnestly contribute to the philanthropic purpose that Congress pursues—the extirpation of Tuberculosis—a disease unfortunately well grafted in all the Spanish-speaking countries of America, and which is in them, besides, pretty nearly always mortal.

If my official duties would permit, I shall have a great deal of pleasure in being present at the meeting of the Congress together with the three delegates I shall appoint from this Province, whose names I will let you know in a few days.

I improve this opportunity to offer you and all the other members of the Committee on Organization the testimony of my most respectful consideration.

(Signed) JOSE M. GOMEZ,
Civil Governor of the Province of Santa Clara.

Clark Bell, Esq., LL. D., Chairman Executive Committee and of the Committee on Organization of the Congress.

General Emilio Nunez, Governor of the Province of Havana, Cuba, has accepted the office of Honorary Vice-President for that Province. His letter of acceptance, addressed to our Secretary for the Spanish-speaking countries, furnishes us the translation:

Government of the Province of Habana, Cuba,
City of Habana, May 25, 1904.

Dr. Augustin M. Fernandez de Ybarra, New York City, Secretary for the Spanish-Speaking Countries in the American International Congress on Tuberculosis.

Sir:—Please be kind enough to transmit the following to the Board of Executive Officers:

It is for me extremely satisfactory the honor that has just been conferred upon me, and I accept, therefore, full of gratitude, the appointment of Honorary Vice-President of your Congress.

Tuberculosis being one of the most generally scattered and death dealing diseases in the world, the idea of establishing a regularly organized Association to combat it deserves, and unquestionably should receive, the enthusiastic support of all men who feel in their hearts an interest for the welfare of humanity.

In Europe, in centuries gone by, leprosy decimated all countries and the persevering effort of men of science kept that dreadful disease outside of the boundaries of that continent. And in our own time, here in this very Island of Cuba, we have seen how yellow fever, which for several centuries was the terror of Spaniards and foreigners, God grant that Americans and Cubans united eradicated it for ever. Why not, now that we can count with the help of eminent medical men who will assemble at your Congress, availing ourselves of greater means to grapple with Tuberculosis, and with the aid lent to us by all civilized governments, should we not succeed in the philanthropic purpose of the Congress,—the extermination of such a calamitous disease? I trust that it should be so, and in the modest sphere of my official duties will do everything possible to contribute to that noble and humanitarian end.

I am sorry to tell you that the obligations attached to my official position do not allow me to be present, as it should be my desire, at the meeting of your Congress, and also that I can not appoint delegates from this Province because in the budget for this year there is no amount of money available for that special purpose. I pray to God, nevertheless, that your Congress be able to carry its

aim to a successful termination for the glory of Science and the good of Humanity.

I am, Sir, with the highest respect and consideration,

Yours very truly,

(Signed) GENERAL EMILIO NUNEZ,
Governor of the Province of Habana.

P. S.—My photograph, as requested by you, goes together with this letter.

STATE OF NEW YORK.

Hon. Wm. W. Goodrich, late Presiding Justice of the Supreme Court, Appellate Division, in the Second Department, accepts the position of Honorary Vice-President of the American International Congress on Tuberculosis, and says that he will endeavor to attend.

Roger Foster, Esq., a prominent member of the Bar of New York City, accepts the position of Vice-President for the State of New York, in the St. Louis Congress on Tuberculosis, and will take part in the work of the body.

ILLINOIS.

Surgeon-General Nicholas Senn, M. D., of the State of Illinois, one of the Honorary Presidents of the American Tuberculosis, sends to the Chairman of the Committee on Organization his views as to the suggestions made by Professor Maurice Benedikt, as to the subjects appropriate for discussion, at the session of the Congress, in October. He writes: "I think the suggestions made by Prof. Benedikt are excellent. They will bring out discussion on important subjects."

Surgeon-General Senn contemplates a trip around the world, via India, starting in July, which may prevent his return in time to attend the Congress, but he will do all in his power to further it, and perhaps see some of our foreign delegates on his route.

The following Illinois physicians have become members of the Congress recently: Dr. W. J. Chenowith, Decatur, Ill.; Dr. S. M. Wilie, Paxton, Ill.; Dr. A. L. Fox, Danville, Ill.; Dr. Helen Reynold Skelleg, Chicago; Sophia McClelland, Chicago.

The Medical members of the Committee on Organization, and of the Board of Officers, are now considering the subjects or themes for discussion, with a view of announcing

them before the session, and the propriety of their discussion as symposiums before the Congress or in sections to be held under the charge of Chairmen of Standing Committees on sectional work, or Vice-Presidents detailed for that purpose.

Officers and members of the Congress and delegates are invited to submit their views, and to make suggestions, as to proper themes for discussion by the Congress.

Chairmen of Standing Committees should, as early as possible, complete the organization of their committees, and advise the officers of names of members of Standing Committees.

Prof. Maurice Benedikt has been so kind as to make the following suggestions for the use of our Committee on Programme:

1. Hygiene of milk in connection with the theories of Koch and Behring.
2. Should the protection of Tuberculosis and Phtisis be separated and how should it be differentiated from the clinical point of view?
3. How must be the protection and cure of the lighter case—the Tuberculous—and of the more serious case—the Phtisis?
4. Is Phtisis only an advanced form of Tuberculosis, or is a symphrosis with other microbic poisons indispensable?
5. What legal measures must be created to hinder the infection through Phtisis in their home and in the localities where they work
6. In the case of involuntary submission of dangerous Phtisis to the public protection (cure) is society obliged to give indemnity to those who live by the working of the sick?
7. Who has the responsibility for prevention, protection, cures, etc., of the Tuberculous poor?
8. What role can be conceded to the philanthropists and to the private patronage? Is it necessary to submit their action to an official sanitary control?
9. Discussion about the role of microbes, their immediate and indirect influence at first appearance and evolution of Tuberculosis and Phtisis.
10. The relation of heredity to the microbic theory.
11. The discussion about the different therapeutic methods and their relative value.

Prof. Dr. Chas. H. Hughes, of St. Louis, Honorary member, writes: "I think these suggestions of Prof. Benedikt are very good ones, and might be embodied in the programme of questions to be considered in symposium.

FRANCE.

Dr. A. Marmorel, of Paris, has accepted an invitation to address the Congress, and has forwarded the title of his paper: "Le Treatment de la Tuberculose par le Serum Anti-tuberculous."

Dr. Wm. Levitt, of Paris, who made a contribution to the American Congress of Tuberculosis of 1902, and who was made an Honorary Vice-President for France, of that Congress, announces his adhesion to this Congress, and will make a contribution to it.

DOMINION OF CANADA.

The Ontario Medical Association, on 16th of June, 1904, named the following delegates to represent that Association at the American International Congress on Tuberculosis, at St. Louis, October 3, 4, and 5, 1904: Dr. E. J. Barrick, of Toronto; Dr. A. A. MacDonald, of Toronto; Dr. J. H. Elliott, of Gravenhurst.

OREGON.

Dr. Andrew C. Smith, President of the State Board of Health, of the State of Oregon, of Portland, accepts the office of Vice-President of the Congress for the State of Oregon.

He sends the following letter:

Portland, Oregon, July 1, 1904.

Clark Bell, Esq., LL. D., Chairman Executive Board American International Congress on Tuberculosis, New York City, N. Y.

Dear Sir:—In regard to your favor of the 20th, I will say, that I will be glad to serve to the best of my ability as a Vice-President, and will be present at the opening of the Congress, and will be willing to make a brief report relating to our efforts at sanitation in this distant Northwest.

I note what you say in regard to our being entitled to name, other delegates, and will call a meeting of the Board for that purpose, and as soon as they are named will notify you.

Assuring you of an early report in regard to the delegates to be named by our Board, I remain,

Very sincerely yours,

ANDREW C. SMITH.

The American Pharmaceutical League have appointed the following delegates to the American International Congress on Tuberculosis, to be held October 3, 4 and 5, 1904, at St. Louis:

Dr. Egbert LeFevre, 52 West 56th St., New York; Dr. W. R. Judge Dalton, Seattle, Wash.. Alternates, Dr. Martin W. Curran, 154 East 72nd Street; Dr. Emanuel Baruch, 57 East 77th Street. Dr. Baruch has accepted and writes that he will attend the Congress.

CONTRIBUTIONS TO CARRY ON THE WORK OF THE CONGRESS.

The Management of the American International Congress on Tuberculosis feel that it is a duty to call the attention of our members and to philanthropic citizens to the claims of the Congress for popular support. The Government of the United States, while speaking in the highest praise of the aims and purposes of the Congress, were not called upon for funds to defray expenses.

To make the movement popular with the people and no burden to the men of all the professions, it was conceded that only a nominal membership fee should be paid.

The sum of \$1.00 was agreed upon because it did not provide on its face for the support of the work, but it placed it within the reach of all on terms that were no burden to any one.

The expense in clerical work, stenographers, type writing and actual disbursements are considerable.

The correspondence with every State, and with the Governments of the entire Western Hemisphere outside of members, delegates and public officials, is very large indeed, and involves expense aside from postage.

The printing expenses are quite large. The Management appeal to the public generosity in aid of a work, which is purely philanthropic and for the public good, and because it can only be supported by voluntary contributions. Those who are engaged in the work should not have their labors impeded for want of funds to carry it on.

So much of the work is gratuitous, as no salaries are paid to any officer of the body, that a small amount will defray all the expenses. \$2,500 at the outside should cover our expense.

To print a Bulletin will cost from \$500 to \$600, but if the plan is carried out that was successful in 1902, the Bulletin can no doubt be provided for in the same way.

Subscriptions and contributions in sums of \$5 to \$25 will not fall hard on any one, and will lift the burden from the officers who have the work in charge, and may be made to any of the officers or the Treasurer, Clark Bell, Esq., at No. 39 Broadway, New York City.

THE BULLETIN OF THE CONGRESS ON TUBERCULOSIS OF 1902.

This volume is completed and will be published before the Session of the Congress of October, 1904. It will be furnished to original subscribers, who have paid for it, as soon as issued.

A few additional copies will be sent to those requesting them so long as they last, for the sum of \$2.00, if paid in advance of publication, or \$2.50 after publication. It will cover the work of 1902-3 in one volume and be illustrated with portraits of officers, members and authors.

BULLETIN OF THE CONGRESS ON TUBERCULOSIS OF 1904.

The Management of the American International Congress on Tuberculosis have arranged with the publishers of the Medico-Legal Journal to furnish Volumes XXI and XXII, of that publication, to all members or delegates at half-price, \$1.50 each per annum, to enable them to receive, in advance, detailed information of the progress of the work, to keep in

touch with its labors and obtain early intelligence from this publication; but this imposes no obligation on members or delegates to take it unless they desire to do so.

A Bulletin of the Congress will be published to subscribers at \$2.50 per volume; but it can not appear until some time after the Congress adjourns, and this will depend also on whether enough subscribers to the Bulletin are received to warrant the announcement of its publication.

If one hundred subscribers to the Bulletin are received, its publication will be undertaken by the Medico-Legal Journal, on the same terms and basis in all respects as the Bulletins of the previous Congress have been published, and those who now send \$2.00 in advance may receive the Bulletin at that reduced price, if sent any time before the first day of October, 1904, with the proviso, that in case subscriptions enough to warrant the publication are not received, the money paid shall be refunded. Subscribers to the Journal at the regular price can send their names and addresses and pay later. Any delegate to former Congresses from 1900 are entitled to enroll under this notice and on same terms.

TUBERCULOSIS AND PREVENTIVE LEGISLATION

The all-absorbing topic, that of commanding and supreme interest, before the American International Congress on Tuberculosis, next Autumn, will be the foremost question that has been presented to the students of Medical jurisprudence, in our century, or the one just closed.

If it be conceded that Tuberculosis is infectious, or communicable from one person to another, there can be no graver problem presented to the race than that of how far, intelligent and carefully devised legislation, can be used for the protection of human life, from that form of disease, which now numbers more victims than any other form suffered by mankind.

Whatever may be the result of the controversies of the Pathologists and the Bacteriologists, or whatever light may be thrown upon the questions; by the students of these subjects, by the chemists, the scientists, or students in all the professions, or upon the problems of Human and Bovine Tuberculosis their relations to each other, or their communicability; whether Koch, or Behring, or the abler students now engaged in the laboratories of the world, on the disputed questions; all these problems and controversies sink into insignificance, when we are confronted by the fact conceded and asserted by all, that consumption is communicable, and that the intervention of the law becomes a public necessity, for the protection of mankind from the ravages of this awful, this terrible disease.

Preventive legislation against Tuberculosis, will, therefore, be pre-eminently the question above all other questions, at the St. Louis Congress, in October next. It is not in any

sense a Medical question. It is more a legal question than a Medical one. It demands the highest legal and legislative ability in its elucidation.

The statesman, the legislator, the scholar, besides the lawyer or the physician, can find in its solution questions demanding his best endeavor, his highest talent. The legal profession has not given to these issues that attention their great importance demands.

Inter armes silent leges seems to have been a partial explanation of the apathy of the leaders of legal thought. They have not been conscious of the tremendous loss of human life, in the conflict with Tuberculosis, that has gone on around them, even when it touched them and the dead have dropped at their very side unnoticed and almost unthought of into that remorseless river, strewn with its victims, from the hearth stones of every home and every family in the whole world.

The apathy of the bar, is amazing, it is inexcusable. The Bar should act and should be aroused to action.

It is easy to throw off responsibility and to place and to shift it on the Medical profession. This responsibility should not rest on Medical men. Their professional duty is to treat the disease; to call public attention to its communicability; to arouse public sentiment, and to educate the public mind to action. This the Medical profession has done and is doing and doing well. They cannot be asked to frame laws, and secure their passage. They can give advice on the medical questions involved, their experience in the treatment, can be utilized in preventive legislation, and the fault of public apathy cannot be justly laid at the door of the Medical profession.

The campaign before the American International Congress on Tuberculosis, is, therefore, pre-eminently a campaign of education, not alone of the masses of the people, but of the professions of both law and medicine, on the two great issues, not only,

1. To educate all, as to the necessity of suitable legislation to arrest and resist the spread and ravages of the disease, but

2. To educate and influence public opinion among all classes of our people, so as to secure the passage of wise legislation, through legislative bodies, quite outside of partisan political considerations; and to so solidify and strengthen public opinion, as to compel and sustain the authorities in the enforcement of such laws when once enacted.

That such issues should be limited to Medical men only, and all others barred, is too absurd and untenable to even discuss.

The American Congress on Tuberculosis was organized by the Medico-Legal Society, in 1900, and combined both professions in its labors.

It has met annually since and continued its work along the same lines; that body meeting in joint session with the Congress, at its sessions.

Now, that its work has the splendid recognition of the United States Government, who has sent out its invitations through the American Secretary of State, to every Government in the Western Hemisphere, requesting such Governments to send delegates to the Congress to which such general recognition and acceptance has been made. Now, that the St. Louis Exposition has placed the Congress on its list of International Congresses, and named a Committee on Organization to carry out its humane and philanthropic work, the time has come for men of all professions to unite in this common effort, and the lawyer, the judge, the medical man, the chemist, the bacteriologist, and the students of the laboratory, whether medical men or not, the revered clergy and the intelligent laity should make common effort in a common cause.

Special invitations have been and will be sent to those who are interested in this work, and papers on this theme, solicited from all the professions.

They will have to be read and considered in sections of the Congress, not one-tenth of its papers could be read before the body, for want of time, as the session is limited to three days.

Those who send contributions who are unable to attend, can be assured that their papers and their views will be read before the proper section of the Congress, and none should wait for special invitations. Contributions may be written in any language, with a brief synopsis in English.

THE REPUBLICS OF CENTRAL AND SOUTH
AMERICA—THE SPANISH SPEAKING COUN-
TRIES OF THE WESTERN HEMISPHERE.

The following is a copy of a letter sent by the management of the American International Congress on Tuberculosis, to the Governments of Mexico and the Central and South American Governments, and the Governors of the States, Provinces and Colonial Governors of the Spanish-speaking Governments.

This work is in charge of Dr. A. M. Fernandez de Ybarra, Secretary for the Spanish-speaking countries:

Muy senor mio:

Tengo el honor de enviar a Ud. aqui adjunto copia de las cartas transmitidas entre nuestro Gobierno y el Gobierno de Ynglaterra, relativas al Congreso Americano Ynternacional de la Tuberculosis, en el idioma ingles y traducidas al castellano. Tambien envio a Ud. en cubierta por separado algunos impresos mas, de interes actual, a los cuales suplico de Ud. publicidad en los principales periodicos de su pais.

Permitame recordarle que debido al largo trascurso de tiempo necesario para la correspondencia entre su pais de Ud. y el nuestro, le estimare se sirva enviarme tan pronto como le sea posible los nombres de los Delegados oficiales que han de asistir al Congreso Americano Ynternacional de la Tuberculosis, a fin de poder anunciar sus nombres y comunicarme directamente con ellos, enviandoles al mismo tiempo varios avisos y notificaciones que ellos naturalmente se alegraran mucho de tener en su poder.

Me es grato suscribirme,
con la mas alta consideracion,

de Ud. atto. S. S. Q. S. M. B.,

CLARK BELL,

Presidente de la Comision de Organiza-
cion y de la Junta Directiva del Congreso.
39 Broadway, New York City, U. S. A.



SURG. GEN. PRESLEY M. RIXEY, M. D.,
Washington, D. C.



HON. L. F. C. GARVIN, M. D.,
Governor of Rhode Island,
Providence, R. I.



JAMES LOUDON,
President of Toronto University.

**HONORARY PRESIDENTS OF THE AMERICAN INTERNATIONAL
CONGRESS ON TUBERCULOSIS, ST. LOUIS, 1904.**

PREVENTIVE LEGISLATION AGAINST TUBERCULOSIS.

The management have decided to issue a call for a symposium of views under the above heading.

The call for the symposium is as follows:

New York, July 1, 1904.

To the Members of the American International Congress on Tuberculosis, and to the Members of the Professions of Law, Medicine, the Reverend Clergy and the Intelligent Laity.

No question that can be presented or discussed before the Congress, to be held next October, will have more significance or importance than the all-important and absorbing questions incident to the subject of

PREVENTIVE LEGISLATION AGAINST TUBERCULOSIS.

1. Conceding that Tuberculosis is a communicable disease from one human being to another, without which no legislation could be sustained by the courts, the real burning issues that confront the Congress, may be thus briefly stated:

a. How far can legislation be devised, that can arrest, avert or even diminish, the terrible mortality of consumption, under which the human race now suffers.

b. How can this coming Congress devise means, that will educate the public mind, to a recognition of the imperative necessity of legislative action, and define its scope and field; and

c. How can public opinion best be created, informed and influenced.

I. To favor the passage of such legislation as is deemed likely to best accomplish the desired result, and

II. How can public opinion be best aroused, formed and enlightened, so that the public will favor the enforcement of such legislation when adopted.

This should be a practical, an influential and a successful movement of the professions of law, medicine and the students of scientific research in all professions, to inquire of the exigences, and the duties of the hour in the presence and at the beginning of a conflict that is the most appalling in its consequences, that mankind now has to meet with any known form of disease.

This Congress is not intended to discuss medical questions, *per se*. Treatment outside of the relation of State legislation as to sanatoria will not be before the Congress.

The contentions of the Bacteriologists and the Pathologists; of Koch and Behring, and Von Shroen, Marmorel and others, are interesting, but they sink in significance, when compared with the problems that now arrest and command the attention of the ablest thinkers of the world, in all professions throughout all lands. It is not possible to read before the Congress, all the contributions likely to be made, from the great number of countries

of the Western Hemisphere, who have been invited, by the Government of the United States, to send representatives to this Congress, so many of whom have accepted.

It is most important that not only the general public, but Medical men especially should recognize and emphasize, the fact that this Congress was organized and intended as a Medico-Legal and popular effort to extend the public sanitation of Tuberculosis on lines indicated by Medical Advance, but not yet generally carried out. It is the mission of this Congress to popularize and spread needed sanitation on these lines. The fact is that the public needs, now ask for means, methods and proper organization of all classes, and that it should not be composed of or limited to Medical men only. These are questions which, in addition to Preventive Legislation, this Congress should explain and develop, and especially should it arrange to co-operate with and help every organized movement now commenced or to be started by State and Municipal bodies, which look to the education of the masses of our people, in every well directed effort, to minimize the terrible devastation of this scourge of mankind.

The labor and the expense of organizing this Congress has been and is very great. It is a purely philanthropic work. It has thus far fallen on a handful of men. Not one of those who have opposed and assailed it ever contributed a dollar towards its success. It has no income. A membership fee of \$1.00 each would not pay a quarter of its postage. The undersigned feel justified in appealing to all citizens to contribute to its cost by donations, to aid its work and uphold and strengthen the hands of those who are engaged in its labors.

The management to simplify the labors of the body and to centralize and condense its work, has decided to ask its officers and members, delegates and friends, and, indeed, all who are in sympathy with it, and who desire to co-operate in its humane and philanthropic endeavor, to send each, their views, upon the issue thus presented, as soon as possible, the whole to constitute a Symposium and consensus of public sentiment, to be published, as a part of the proceedings and transactions of the body to be read before a Section or one of the Standing Committees so far as possible, to the end, that a hearing may be given to all students of all professions, on what has been regarded by the founders of the American International Congress on Tuberculosis since its organization, under the auspices of the Medico-Legal Society, in 1900, as the highest question in Forensic Medicine that has ever been publicly brought to the attention of the world.

Those who will contribute to this Symposium should, if unable to present the paper at once, send their names, and an abstract of what it contains, to have the approval of the Committee on Censorship. Contributions may be made in any language the author prefers.

Respectfully submitted,

By the Board of Executive Officers,

E. J. BARRICK,

President of the Congress.

CLARK BELL,

Chairman of Board of Executive Officers, and of the Committee on Organization, named by the St. Louis Exposition.

DEFINITION OF INSANITY.

We publish a letter from Dr. J. W. Wherry, Assistant Physician at Clarinda State Hospital, Clarinda, Iowa, which states a question, to which the Journal asks for responses.

Some years ago we made a study of Definitions of Insanity and published a large number of definitions, from a large number of alienists. We invite replies and will publish them if we receive them, and resume the consideration of the subject later:

Clarinda, Iowa, July 5, 1904.

Mr. Clark Bell, LL. D., New York City.

Dear Sir:—

Knowing something of your interest in psychiatry and your knowledge and experience in medico-legal questions I send by same mail for your perusal a pamphlet entitled, "Limiting the Term Insanity."

After reading the same will you kindly give me your opinion of the following definition?

Insanity is a mental attitude, congenital or acquired, based upon an exaggerated and abnormal fundamental tone of feeling which has its origin in some physical disorder, and which gives birth to a delusion that dominates the individual's thoughts, acts and emotions.

Truly yours,

J. W. WHERRY.

NOTES ON TUBERCULOSIS.

For the International Congress on Tuberculosis to be held under the auspices of the Universal Exposition and of the American Congress on Tuberculosis, at St. Louis, October 3d, 4th and 5th, 1904.

The Symposium on "The Relation of Insanity to Tuberculosis" is attracting great attention among alienists at home and abroad. The following announcement was made in our June number:

INSANITY AND TUBERCULOSIS.

The study of insanity in its relation to Tuberculosis, is exciting the attention of the thoughtful alienists of all lands.

While it is not directly related to the supreme and higher question in Forensic Medicine, of how far and to what extent preventive legislation can be relied upon to arrest and avert the ravages of this dreadful scourge of the human race, it is forced into public recognition, because the insane being nearly all dependent, are the wards of the State; and the approaching Congress, at St. Louis, is regarded by the management, as, a suitable occasion to call upon the leading alienists and neurologists of the world, for a full discussion of this subject, with the view and to the end, that the contributions can all be presented before one of the sections of the Congress without at all interfering in its greater work on preventive legislation, and the various themes which are now under consideration by the committee having charge of the formation of the programme.

The following letter has been and will be sent, to a large number of those who are believed to be interested in the question, and their contributions will be compiled as a general symposium and discussion of this subject.

Dear Colleague:

The Board of Executive Officers have decided to invite you to be present and take part in a discussion of the subject of "The Relation of Insanity to Tuberculosis," at the approaching Congress, at the St. Louis Exposition, on October 3, 4 and 5, proximo.

We hope that you will contribute a paper and forward it as early as possible or allow your name to be announced as willing to take part in the discussion of that subject. If you are unable to

be present personally, your contribution will be read for you, at the Session or before a Section, or a Standing Committee. The whole to constitute a Symposium. Please favor the Officers with an early response and forward your views in advance, also to aid the Committee having in charge the formation of the programme of the Congress. Contributions to the Congress may be written in any language and sent in advance of the Session.

Respectfully submitted,

E. J. BARRICK, President.
CLARK BELL,
Chairman Executive Board and
Committee on Organization.

It is the purpose of the management to open the discussion of these subjects to all who are interested in them, in all lands, and the lay and Medical Press are solicited to give this notice publicity, to the end that all who take an interest in them, may regard themselves as especially invited, and can address the President, or the Chairman of the Committee on Organization, upon the subject, whether they have received the special invitation or not.

AMERICAN INTERNATIONAL CONGRESS ON TUBERCULOSIS.
OFFICE OF THE CHAIRMAN COMMITTEE ON ORGANIZA-
TION AND OF THE BOARD OF EXECUTIVE OFFICERS.
39 BROADWAY, NEW YORK CITY, N. Y.

My Dear Colleague:

I hope you will send me a contribution for this Symposium, and if you know of any of your conferres whom you think would be glad to avail themselves of this occasion, I authorize you and ask it as a favor to our Executive Board that you invite them in the name of our officers and the assurance will come later officially when I receive their names or address, and an intimation that they will respond.

I am instructed by our Board to send invitations to your State or Country, to all those who are interested in the Pathological and Bacteriological aspects of Tuberculosis, but I do not always know their names and addresses.

If you will send me the name and addresses of those who are competent to speak on this plane or branch of the subject, I will invite them officially.

The leading thought of the Congress will be "Preventive Legislation."

1st, To arrest, avert and minimize the spread of the disease, and 2d, To create a public opinion favoring such legislation and its enforcement when enacted.

Who would be the leading exponents in your State or Country in this domain of scientific thought? Faithfully yours,

CLARK BELL,
Chairman Committee on Organiza-
tion and of Executive Board.

The following reply has been already received from the able Dr. R. H. Hutchings, Superintendent of the St. Lawrence State Hospital:

State of New York, St. Lawrence State Hospital,
(R. H. Hutchings, M. D. Superintendent.)
Ogdensburg, August 12, 1904.

Clark Bell, Esq., 39 Broadway, New York City.

Dear Sir:—I am in receipt of your invitation, as Chairman of the Executive Committee of the American International Congress

on Tuberculosis, to contribute a paper joining a discussion on "The Relation of Insanity to Tuberculosis," at the approaching Congress to be held at St. Louis, in October. I note that you say if unable to be present at that time my paper or discussion will be read for me, and with this understanding I would be glad to contribute a short paper in the discussion of that subject. It will not exceed ten minutes in length and will refer to the frequency of the disease in the St. Lawrence State Hospital and the provisions which have been adopted to combat it, including the construction of a separate building for the treatment of this disease for the accommodation of one hundred patients, and the organization and equipment of this building.

If this would be of interest to the Congress I will prepare a paper and forward it to whatever address you suggest a week or more in advance of the meeting.

Yours truly,

R. H. HUTCHINGS,
Superintendent.

Dr. Hutchings has been requested to furnish advance sheets of his paper for this purpose as early as possible.

If this or other papers of interest are received in time the officers will send advance sheets of the same to those who are announced for the discussion of their subject.

If Dr. R. Bruce Smith, of the Asylum for the Insane at Brockville, Ontario, who was the first to announce the subject as the theme of this paper, and Dr. E. Baruch, of New York, send their papers in advance, we shall pursue the same course if received in time to pass the Committee on Censorship of Papers and get it in type, and this course will be followed with a limited number of the contributions already promised to those who have announced their intention to take part in this discussion.

Prof. Dr. Maurice Benedikt, of Vienna, writes under the date of July 31, announcing his desire to take part in the discussion of this theme in the Symposium. We regret to learn that he is suffering from a serious disease of the skin that will prevent his coming out to the Congress in person in October, as he had announced:

His contribution for this Symposium he sent on the same date.

APPOINTMENT OF DELEGATES FROM STATES.

ALABAMA.

The Governor of Alabama has sent the following to the Management of the American International Congress on Tuberculosis:

Montgomery, August 26, 1904.

Hon. Clark Bell, Chairman Committee on Organization and of Board of Executive Officers, New York City.

My Dear Sir:—The Governor directs me to hand you herewith a list of the delegates from this State to the American International Congress on Tuberculosis, to be held in St. Louis, on October 3, 4 and 5, 1904, and I am,

Very truly your,

J. K. JACKSON,
Private Secretary.

Dr. W. H. Sanders, State Health Officer, Montgomery.	Dr. W. A. Huddlestown, Wetumpka.
Dr. Shirley Bragg, Member State Convict Board, Montgomery.	Dr. Wm. M. Falk, Tuscaloosa.
Dr. Judson Davie, Littleton.	Dr. J. T. Searcy, Tuscaloosa.
Dr. R. A. Jones, Siddonsville.	Dr. T. W. Smith, Union.
Dr. E. D. Bondurant, Mobile.	Dr. J. B. Long, Abbeville.
Dr. Seale Harris, Union Springs.	Dr. G. Brown, Pratt City.
Dr. W. W. Mangum, Eufaula.	Dr. C. C. Jones, East Lake.
Dr. R. N. Pitts, Montgomery.	Dr. J. N. Pearson, Florence.
Dr. M. B. Cameron, Sumterville.	Dr. W. J. McMahon, Courtland.
Dr. W. D. Gaines, Lafayette.	Dr. W. T. Pride, Madison.
Dr. J. C. McLeod, Bay Minette.	Dr. W. E. Quinn, Ft. Payne.
Dr. J. C. Kenderick, Greenville.	Dr. Robert Goldwalth, Montgomery.
Dr. J. M. Whiteside, Oxford.	Dr. F. P. Peddy, New Decatur.
Dr. J. B. Furniss, Selma.	Dr. S. H. Hill, Carrollton.
	Dr. S. W. Welch, Talladega.
	Dr. Wm. M. Cunningham, Corona.

Dr. C. C. Jones, of East Lake, Ala., has been appointed a Vice-President from the State of Alabama in the American International Congress, at St. Louis.

In his letter of acceptance Dr. Jones says:

"I will endeavor to lend all my influence for the furtherance of the work undertaken by the Congress, for few have suffered more from the ravages of Tuberculosis than my own immediate family. I hope to meet you in St. Louis, and that we shall not only have a great meeting, but accomplish great good for humanity."

Dr. Jones is President of the State Medical Society of Alabama, and one of the foremost physicians of his State.

CALIFORNIA.

The Governor of California has sent the following Communication:

Executive Department, State of California,
Sacramento, August 8, 1904.

Dr. Clark Bell, Chairman Organization Committee, A. I. C. T.,
39 Broadway, New York.

Dear Sir:—Answering your letter of July 16th, which was not received by me until I returned from the Eastern States a few days since, I beg to say that I have appointed a list of delegates to the coming meeting of the American International Congress on Tuberculosis. The names of the delegates appointed will be found on the enclosed sheet, and they include some of the leading practitioners of San Francisco and other cities in the State.

Very truly yours,

GEO. C. PARDEE.

Dr. A. A. D'Ancona,
1022 Sutter St., San Francisco.

Dr. D. A. Hodghead,
1025 Sutter St., San Francisco.

Dr. F. M. Pottenger,
601 Johnson Bldg., Los Angeles.

Dr. H. Bert Ellis,
240 Bradbury Block,
Los Angeles.

Dr. C. C. Browning, Highlands.

Dr. Cornelius van Zwahlenberg,
Riverside.

Dr. Fred. R. Burnham,
Grant Block, San Diego.

Dr. Chester Rowell, Fresno.

Dr. C. W. Nutting, Aetna Mills.

Dr. N. K. Foster,
Sacramento.

Dr. W. A. Briggs, Sacramento.

Dr. Edward Twitchell,
Sacramento.

Dr. Henry Gibbons, Jr.,
920 Polk St., San Francisco.

Dr. Philip King Brown,
1612 Van Ness Avenue,
San Francisco.

Dr. C. N. Ellinwood,
2739 Pacific Avenue,
San Francisco.

Dr. Wm. Watt Kerr,
1200 Van Ness Avenue,
San Francisco.

CALIFORNIA.

The Governor of California writes the Management as follows:

Executive Department, State of California,
Sacramento, Sept. 24, 1904.

E. J. Barrick, M. D., President American International Congress on
Tuberculosis, New York, N. Y.

Dear Doctor:—Answering yours of September 13th, which I find on my desk on my return to the capital. Unfortunately, it will not be practicable for me to attend the meeting of the Congress set for October 3, 4 and 5, much as I would like to do so. We have, however, appointed delegates to attend the Congress, and I have no doubt that they will be present and take part in the business of the meeting.

As for myself, I appreciate, as all other medical men should, the importance of such a meeting. The disease is so widespread among our people as to require and merit proper care against its transmission, and proper therapeutic measures towards its cure, and I believe that the results of the Congress will be of the most importance to the people of the United States and to the world at large. Kindly say to the convention that California, as much as, if not more than any other State, has an interest in the success of the Congress, and that we will hail with pleasure such action of the Congress as may result in checking, perhaps, eradicating, the dread disease.

Very truly yours,

GEO. C. PARDEE,
Governor of California.

ILLINOIS.

Delegates recommended for appointment from the State of Illinois, by the Committee named for the purpose, and who have been notified of their appointment, are as follows:

Dr. Wm. E. Quine, 103 State St., Chicago.	Dr. Frank Billings, 100 State St., Chicago.
Dr. Franklin H. Martin, 38 Washington St., Chicago.	Dr. Arthur R. Edwards, 103 State St., Chicago.
Prof. Carl Reck, 92 State St., Chicago.	Dr. W. Williams, Quincy.
Prof. John Edwin Rhodes, 34 Washington St., Chicago.	Dr. Z. Y. Baum, Paris.
Prof. Dr. John Pidlou, 103 State St., Chicago.	Dr. E. A. Raab, Bellville.
Prof. Dr. Francis Dickinson, Harvey Medical College, Chicago.	Dr. A. E. Owens, Princeton.
Prof. Dr. Wm. Allen Persey, 103 State St., Chicago.	Dr. Joseph Hallett, Bloomington.
Dr. Norval H. Pierce, 31 Washington St., Chicago.	Dr. F. M. Wetzel, Carthage.
Dr. Charles Gilbert Davis, 31 Washington St., Chicago.	P. S. Replogh, 2306 Indiana St., Chicago.
Dr. John H. Lindquest, 100 State St., Chicago.	Helen M. Parker, 53 Warren St., Chicago.
Dr. Allen S. Haight, 103 State St., Chicago.	Sophia McClelland, M. D., Chicago.
Dr. Robt. Babcock, 103 State St., Chicago.	Dr. G. W. Webster, Chicago.
Dr. L. Blake Baldwin, 103 State St., Chicago.	Dr. A. C. Sullivan, Cairo.
Dr. Sheldon Peck, 92 State St., Chicago.	Dr. C. B. Johnson, Campaign.
	Dr. Chas. L. St. Loder, 25th St. and Arch Av., Chicago.
	Dr. Edward B. Taylor, Neurologist, 207 S. Waller St., Chicago.
	Dr. Albert H. Andrews, 100 State St., Chicago.

INDIANA.

The names presented by the officials for the State of Indiana, who have been thus notified, in which Dr. Wm. B. Fletcher, of Indianapolis, has been most active, are as follows:

Dr. Joseph Rillus Eastman, 331 N. Delaware St., Indianapolis.	327 Newton Claypool Bldg., Indianapolis.
Dr. Albert E. Sterne, 1820 E. Tenth St., Indianapolis.	Dr. F. O. Dorsey, 212 Newton Claypool Bldg., Indianapolis.
Dr. Theodore Potter, 308 Newton Claypool Bldg., Indianapolis.	Dr. Albert M. Cole, 401 Newton Claypool Bldg., Indianapolis.
Dr. E. C. Reyer, 315 Newton Claypool Bldg., Indianapolis.	Dr. F. A. Spink, Washington.
Dr. Frank B. Wynn, 315 Newton Claypool Bldg., Indianapolis.	Dr. E. V. Greene, Martinsville.
Dr. Chas. E. Ferguson,	Dr. J. W. H. Kemper, Muncie.
	Dr. Walter Schell, Terre Haute.
	Dr. Geo. W. McCaskey, Fort Wayne.
	Dr. M. I. Rosenthal, , Fort Wayne.
	Dr. Carl F. Payne, Franklin.

IOWA.

The Management has received the enclosed communication from the Governor of Iowa:

Executive Department, Private Secretary's Room,
Des Moines, Iowa, Sept. 6, 1904.

My Dear Sir:—By direction of the Governor I have the honor to enclose you herewith a list of delegates, to represent Iowa at the meeting of the American International Congress of Tuberculosis, to be held in St. Louis, October 3-5, 1904.

Yours very truly,

JOHN ZEROS, Private Secretary.

Clark Bell, 39 Broadway, New York City, N. Y.

Delegates to the American International Congress on Tuberculosis, Mo., October 3 to 5 inclusive, 1904:

A. M. Linn, M. D., Des Moines, Polk Co.	J. W. Kime, M. D., Ft. Dodge, Webster Co.
F. I. Will, M. D., Des Moines, Polk Co.	L. F. Summers, M. D., Milton, Van Buren Co.
Geo. C. Neal, M. D., Ft. Madison, Lee Co.	J. W. Finarty, M. D., Knoxville, Marion Co.
E. Luther Stevens, M. D., Des Moines, Polk Co.	G. S. Robinson, Des Moines, Polk Co.
John J. Hamilton, M. D., Cedar Rapids, Linn Co.	J. D. McCleary, M. D., Indianola, Warren Co.
Geo. Adams, M. D., Estherville, Emmet Co.	W. M. Parks, M. D., Indianola, Warren Co.
L. G. Kinne, Des Moines, Polk Co.	J. F. Kennedy, M. D., Des Moines, Polk Co.
Fred. Wells, M. D., Des Moines, Polk Co.	

The State Society of Iowa Medical Women have appointed the following delegates to represent that organization before the American International Congress on Tuberculosis next October, at the Tuberculosis Congress, St. Louis:

Mary D. Ardery, M. D., President of that Society, Knoxville.
Dr. Anna Burnett, First Vice-President of the Iowa Society and Assistant Physician State Hospital for Insane, Mt. Pleasant.
Dr. Sophia Hinzle Scott, Des Moines, Iowa.

KANSAS.

The Governor of Kansas has sent the Management the following letter:

State of Kansas, Executive Department, Governor's Office,
Topeka, Aug. 29, 1904.

Mr. Clark Bell, 39 Broadway, N. Y.

Dear Sir:—I am directed by the Governor to inform you that the following persons have been named as delegates to the American International Congress on Tuberculosis, to be held at St. Louis, Mo., October 3 to 5, 1904:

Dr. W. E. McVey, Topeka, Kansas; Dr. Sarah Greenfield, Topeka, Kansas; Dr. Chas. S. Hoffman, Columbus, Kansas; Dr. J. H. Hensen, Mound Valley, Kansas; Judge E. H. Madison, Dodge City, Kansas.

Yours very truly,

H. W. BRUNT,
Executive Clerk.

KENTUCKY.

The following delegation was named for this State:

Prof. Dr. Thos. C. Evans, Louisville.	Dr. Geo. T. Fuller, Mayfield.
Dr. J. M. Matthews, M. D., Louisville.	Dr. Herbert H. Hunt, B. A., Phg., Louisville.
Dr. P. Richard Taylor, Louisville.	Dr. Anderson N. Ellers, Maysville.
Henry L. Stone, Esq., A. M., Louisville.	Dr. A. W. Davis, Montuor Gap.
Dr. Dudley S. Reynolds, Louisville.	Dr. Jessie J. B. S. Adams, Munfordville.
Dr. Edward R. Palmer, A. B., Louisville.	Dr. Virgil L. Barker, Newport.
Dr. Adolph O. Pfingit, Louisville.	Dr. Oscar A. Frenchman, Newport.
1Dr. B. F. Porter, Louisville.	Dr. Joseph R. Anderson, Oernsboro.
Dr. Curran Pape, Louisville.	Dr. John C. Hoover, Oernsboro.
Dr. Samuel Tunnons, Louisville.	Dr. Steel Bailey, Stanford.
	Dr. Riley Rogers, Taylosville.
	Dr. Edison N. Hall, Woodboro.

LOUISIANA.

Executive Department, Baton Rouge, Aug. 30, 1904.

Hon. Clark Bell, Chairman, 39 Broadway, New York City.

Dear Sir:—Yours of August 16, to Hon. W. W. Heard, Governor of Louisiana, was referred to me by that gentleman.

I succeeded Mr. Heard in the governorship on the 16th of May. I will forthwith appoint the delegates to represent this State in the American International Congress on Tuberculosis, to be held October 3 to 5, at the World's Fair.

Yours truly,

N. C. BLANCHARD.

Enclosed find list of delegates appointed:

Dr. Geo. A. B. Hays, Jackson, La.	Dr. N. K. Vance, Shreveport, La.
Dr. Charles Chassagnac, New Orleans, La.	Dr. J. M. Barrier, Delhi, La.
Dr. John Elliott, New Orleans, La.	Dr. Charles McVea, Baton Rouge, La.
Dr. Quitman Kohuke, New Orleans, La.	Dr. L. O. Scruggs, Cloutiersville, La.
Dr. Edmond Souchon, New Orleans, La.	Dr. C. H. Irion, Benton, La.
Dr. I. D. Bloom, New Orleans, La.	Dr. L. S. Poole, Lenisport, La.
Dr. Fred. Loeber, New Orleans, La.	Dr. A. A. Forsythe, Alexandria, La.
Dr. Milton Smith, Shreveport, La.	Dr. R. O. Simmons, Alexandria, La.
	Dr. C. I. Ducate, Cottonport, La.
	Dr. Z. F. Gallion, Natchitoches, La.

MASSACHUSETTS.

The Governor of Massachusetts not having named any delegates for either the Congress of 1901 nor 1902, and his successor not having named any delegation for the approaching Congress, and fearing that this state, which has in the past had so much larger mortality from Tuberculosis than the other states in the American union, might not be

properly represented in the approaching Congress, notwithstanding the late hour, the committee having the representation of this state in charge have designated the following delegates to the Board of Executive officers, to whom notice has been sent of the action. As some of them may not accept, their resignation or declination will be filled by the Board, and it has been ordered by the Board that any delegate so notified after August 18, may send any contribution he desires to make after the Congress has been held and that it shall be added to the transactions and published in the Bulletin, subject to the approval of the committee on censorship, and that it may go into the transactions.

Dr. Everett D. Hooper, 10 Studio Building, Boston.	Dr. John Eugene Monroe, Orange.
Dr. Philip Coombs Knapp, 22 Marlboro Street, Boston.	Dr. John Frederick Welch, Quincy.
Dr. William F. Knowles, 220 Clarendon St., Boston.	Dr. Vivian Daniel, Watertown.
Dr. Albert E. Miller, 110 Tremont St, Boston.	Dr. Edward Cowles, Waverly.
Dr. Edward Osgood Otis, 381 Beacon St., Boston, Summer residence Rye Beach.	Dr. N. Emmons Paine, West Newton.
Dr. George H. Payne, 202 Huntington Ave., Boston.	Dr. Albert W. Horr, 14 Beacon St., Boston.
Dr. George A. Saffa, 220 Clarendon St., Boston.	Dr. George F. Jelly, 69 Newbury St., Boston.
Dr. George Lincoln, 199 Marlboro St., Boston.	Dr. Frederick I. Knight, 195 Beacon St., Boston.
Dr. Lowell F. Wentworth, State House, Boston.	Dr. Gustav Liebmann, 9 Ivy St., Boston.
Dr. John F. Worcester, 405 Washington St., Dorchester.	Dr. John Lovett Morse, 70 Bay State Road, Boston.
Dr. Frank H. Burnett, 208 Warren Ave, Brockton.	Dr. George Stedman, 1080 Boylston St., Boston.
Dr. Walter Channing, Brookline.	Dr. Henry R. Stedman, 33 Marlboro St., Boston.
Dr. Frederick H. Osgood, Brookline.	Dr. T. Morris Strong, 176 Huntington Ave., Boston.
Dr. Samuel E. Fletcher, Chicopee.	Dr. John Jenks Thomas, 636 Beacon St., Boston.
Dr. Oliver H. Howe, Cohasset.	Dr. Samuel G. Webber, 419 Boylston St., Boston.
Dr. George L. Richards, 84 N. Main St., Fall River.	Dr. Francis H. Williams, 505 Beacon St., Boston.
Dr. Arthur MacCabe, Gloucester.	Prof. Dr. Edward S. Wood, 688 Boylston St., Boston.
Dr. Frederick A. Jewett, Grafton.	Dr. Henry L. Dearing, Braintree.
Dr. Joseph Storer Hart, Lincoln.	Dr. Calvin Pratt, Bridgewater.
Dr. Albert E. Miller, Needham.	Dr. Henry R. Stedman, 33 Marlboro St., Brookline.
Dr. Arthur Clark Nason, Newburyport.	Dr. Henry C. B. Snow, Buzzards Bay.
Dr. Orland J. Brown, North Adams.	Dr. Augustus Peck Clarke, 825 Mass. Ave., Cambridge.
	Dr. Woodbury G. Frost, Danvers.

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| Dr. Adam S. Macknight,
355 N. Main St., Fall River. | Dr. Howard P. Pellows,
220 Clarendon St., Boston. |
| Dr. Eustace L. Fiske,
20 Prichard St., Fitchburg. | Dr. Clara J. Alexander,
Hotel Bristol, Copley Square,
Boston. |
| Dr. D. Sidney Woodworth,
417 Main St., Fitchburg. | Dr. John B. Brainerd,
18 Huntington Ave., Boston. |
| Dr. Maurice Dwight Clarke,
8 Newcomb St., Haverhill. | Dr. Julia M. Carpenter,
117 Hotel Pelham, Boston. |
| Dr. John F. Croston,
83 Emerson Street. | Dr. William E. Chenery,
415 Columbus Ave., Boston. |
| Dr. J. Arthur Gage, Lowell. | Dr. Carolus M. Cobb,
419 Boylston St., Boston. |
| Dr. George Westgate Mills,
Medford. | Dr. Edward P. Colby,
845 Boylston St., Boston. |
| Dr. Ellenwood E. Coleman,
Nantucket. | Dr. Owen Copp, A. B.,
36 State House, Boston. |
| Dr. Garry De N. Hough,
New Bedford. | Dr. Joseph W. Courtney,
409 Marlboro St., Boston. |
| Dr. Arthur Gladstone Minshall,
Northampton. | Dr. Charles G. Cumston,
871 Beacon St., Boston. |
| Dr. Charles W. Haddock, Salem. | Ephraim Cutter, A. M., LL. D.
120 Broadway, New York. |
| Dr. John F. Couch, Somerville. | Dr. Frederick S. De Lue,
419 Boylston St., Boston. |
| Dr. Henry Hull, Somerville. | Dr. Edwin Kelles Dwight,
19 Marlboro St., Boston. |
| Dr. Silas D. Presbrey, Taunton. | Dr. William R. Emerson,
601 Boylston St., Boston. |
| Dr. Henry P. Walcott,
Cambridge. | Dr. John W. Farlow,
224 Clarendon St., Boston. |
| Dr. Julian A. Mead, Watertown. | Dr. Clara E. Gary,
416 Marlboro St., Boston. |
| Hiram F. Mills, C. E., Lowell. | Dr. Joseph L. Goodale, A. M.,
397 Beacon St., Boston. |
| Gerard C. Toby, Esq., Mareham. | Dr. John E. Grinfield-Coxwell,
63 Centre St., Roxbury. |
| James W. Hull, Esq., Pittsfield. | Dr. Edward M. Harding,
Ex-Supt. Danvers Insane
Hospital, 74 Boylston Street. |
| Charles H. Porter, Esq., Quincy. | Dr. William B. Bidden,
74 Boylston St., Boston. |
| H. Goodenough, C. E. | Dr. Edgar M. Holmes,
598 Tremont St., Boston. |
| Dr. W. D. Swan,
Supt. Cambridge Hospital,
Mt. Auburn St., Cambridge. | |
| Edward B. Lane, M. D.,
Boston Insane Hospital,
New Dorchester. | |
| Dr. William Noyes,
Boston Insane Hospital,
Mattapan. | |
| Dr. Herbert C. Clapp,
334 Commonwealth Ave., Boston | |
| Dr. Organ G. Cilley,
175 Beacon St., Boston. | |

MICHIGAN.

The Governor of Michigan sends the following to the Management:

Executive Office.

Lansing, Mich., Sept. 21, 1904.

Dr. E. J. Barrick, President, New York City.

Dear Sir:—I am in receipt of your kind letter of the 13th instant, inviting me to take part in the opening exercises of the American International Congress on Tuberculosis, to be held at Convention Hall, under the auspices of the Universal Exposition, St. Louis, on the morning of October 3, 1904, and regret that other demands upon my time will render it impossible for me to be present on that occasion. Permit me to assure you that the aim of your organization has my earnest approval, and to express the wish that the coming Congress may be productive of much good to the world.

Very respectfully yours,

N. L. BLISS.

MISSOURI.

Missouri State Medical Association.

C. M. Nicholson, M. D., Secretary, 2900 Washington Ave.
Mr. Clark Bell, 39 Broadway, New York City, Chairman Executive Board.

My Dear Sir:—The following gentlemen have been appointed delegates to the American International Congress on Tuberculosis by the Missouri State Medical Association:

Dr. W. G. Moore, St. Louis.	Dr. I. D. Brummel, Solisbury.
Dr. Samuel C. Tomas,	Dr. A. R. Snyder, Toplin.
Kansas City.	Dr. Woodson Moss, Columbia.

Yours very truly,
C. M. NICHOLSON, Secretary.

MISSOURI.

St. Louis, Sept. 21, 1904.

Mr. Clark Bell, Chairman Committee on Organization, 39 Broadway,
New York City.

Dear Sir:—Inclosed you will find the additional list of delegates from the Missouri State Medical Association to the International Congress on Tuberculosis.

Yours very truly,
C. M. NICHOLSON, Secretary.

Dr. M. R. Hughes,	Dr. William Porter,
4857 Olive St., St. Louis.	3886 Washington Boulevard,
Dr. J. R. Lemen,	Dr. W. F. Morrow, Kansas City.
3223 Lucas Ave., St. Louis.	Dr. J. Wood Fassett, St. Joseph.
Dr. Bransford Lewis,	Dr. E. L. Chambliss,
627 Century Bldg., St. Louis.	Kansas City.
Dr. William McPheeters,	Dr. E. W. Schauffler,
3452 Pine St., St. Louis.	Kansas City.
Dr. Benjamin M. Hypes,	Dr. U. S. Wright, Fayette.
2005 Victor St., St. Louis.	Dr. H. C. Shuttee, West Plains.
Dr. Frederick Kolbenheyer,	Dr. J. M. Allen, Liberty.
2006 Lafayette Ave., St. Louis.	Dr. L. F. Murray, Holden.
Dr. R. F. Schleuter,	Dr. L. F. Murray, Holden.
909 Park Ave., St. Louis.	

THE MEDICAL SOCIETY OF THE MISSOURI VALLEY.

The Management of the American International Congress on Tuberculosis is advised by Chas. Wood Fassett, M. D., Secretary, under date of 13th of September, that the President, Dr. S. Grover Burnett, of Kansas City, has appointed the following named delegates to the American Congress on Tuberculosis, to be held in St. Louis, October 3, 4, and 5, viz:

Dr. W. O. Bridges,	Dr. Donald Macrae,
Omaha, Nebraska.	Council Bluff, Ia.
Dr. A. D. Wilkinson,	Dr. J. M. Emmert,
Lincoln, Nebraska.	Atlantic, Ia.
Dr. V. L. Weynor,	Dr. T. H. Doyle,
Council Bluff, Ia.	St. Joseph, Mo.
Dr. Jacob Geiger,	Dr. Flavel B. Tiffany,
St. Joseph, Mo.	Kansas City, Mo.

Office of the President.

September 19, 1904.

Dear Sir:—I have the honor to acknowledge the receipt of your letter of September 13th, inviting me on behalf of the Executive Board to attend the opening ceremonies of the American International Congress on Tuberculosis, to be held in Convention Hall on Monday, October 3, and to make a short address on that occasion.

My official duties and other engagements permitting, I shall be pleased to attend the meeting alluded to and to extend to the assembled delegates a cordial welcome on behalf of the Exposition Management.

Yours very truly,

D. K. FRANCIS, President.

Dr. E. I. Barrick, President of the International Congress on Tuberculosis, Toronto, Canada.

NEBRASKA.

The delegates thus named and to whom notices have been sent, from Nebraska, are as follows:

Dr. P. B. Bailey, Lincoln.	Dr. Frank C. Wiser, Falls City.
Dr. W. T. Johnson, Pawnee City	Dr. Geo. J. Haslam, Fremont.
Dr. G. H. Brash, Beatrice.	Dr. P. Emmet Plumb,
Dr. A. F. Jonas, Omaha.	Gothenberg.
Dr. W. B. Kern, Supt.,	Dr. A. J. Chapman,
Hastings.	State hospital for Insane,
Dr. J. S. Greene, Supt. Asylum.	Hastings.
Dr. W. L. Carlye,	Dr. Thomas Stack, Holbrook.
State Asylum, Hastings.	Dr. M. A. Hoover, Kearney.
Dr. H. M. Hepperlen, Beatrice.	Dr. Geo. M. Hall, Kearney.
Dr. E. N. Leake, Fremont.	Dr. Ed. J. Angle, Lincoln.
Dr. J. W. Bullard, Pawnee City.	Dr. Howard M. Cassaber,
Dr. W. B. Ely, Omaha.	Lincoln.
Dr. Geo. Wilkinson, Omaha.	W. B. Kerns, M. D.,
Dr. Ira H. Dillon, Auburn.	Supt. Asylum, Hastings.
Dr. Chas. L. Mullins,	F. F. Yeal, M. P., Norfolk
Broken Bow.	Asylum for Insane.
Dr. Gilbert L. Pritchell,	Dr. Wm. J. Browning,
Fairbury.	411 N. Y. Life Bldg., Omaha.
Dr. Adam R. Ray, Fairfield.	Dr. Victor H. Coffman.

NEW HAMPSHIRE.

The following delegation was named for New Hampshire:

Dr. Dan'l S. Adams, Manchester.	Dr. Emile A. Sylvain,
Dr. N. Wm. Murphy, Concord.	Manchester.
Dr. J. A. Craig, Westmoreland.	Dr. David M. Currier, Newport.
Dr. A. I. Noble,	Dr. Ernst Louis Bell,
Worcester, Mass.	North Woodstock.
Dr. A. C. Bailey, Randolph, Vt.	Dr. Ezra Clark Chase, Oxford.
Dr. H. N. Kingsford, Hanover.	Dr. C. R. Gibson, Woodsville.
Dr. Louis B. Marcou, Phg.,	Hon. E. G. Eastman, Exeter.
Berlin.	Dr. C. S. Collins, Nashua.
Dr. Chas. F. McGahan,	Robert Fletcher, C. E., Hanover.
Bethlehem.	Dr. H. T. Fontaine, Pennbroke.
Dr. Granville P. Conn, Concord.	Dr. Enos Hawkins, Plymouth.
Dr. Orlands B. Douglass,	Ex-Gov. C. B. Jordan, Lancaster
Concord.	Dr. W. H. True, Laconia.
Dr. Chas. R. Walker, Concord.	Dr. G. W. Flagg, Keene.
Dr. J. Franklin Robison,	
Manchester.	

NEW YORK.

The following delegates to the American International Congress on Tuberculosis have been appointed by the Hon. S. Fred. Nixon, Speaker of the House of Assembly, on the request of the Management of the Congress by reason of the absence of the Governor.

The Management was requested by Speaker Nixon to notify the delegates of their appointment, and authorized to fill all vacancies in the delegation by declination, resignation, or for any other cause.

Hon. Olin T. Nye, Wtkins, Schuyler Co., N. Y., Ch. Com. on Pub. Health.	Dr. Julius B. Ranson, Dannemora.
Hon. James Kellogg Apgar, Poughkeepsie.	Dr. C. O. Sahler, Kingston, N. Y.
Hon. George Ruehl, Buffalo.	Hon. Judge James G. Tighe, Brooklyn.
Dr. Daniel H. Arthur, Gowanda, Cattaraugus Co., New York.	Samuel Bell Thomas, Esq., New York City.
Thomas F. Adkin, Esq., Rochester, N. Y.	Dr. Charles R. Weed, Utica.
Dr. Dwight B. Burrell, Supt., Canandigua, Ontario Co.	Dr. J. V. Stanton Wilcox, Saratoga.
Dr. Robert Bell, Monterey, Schuyler Co.	Ex-Presiding Justice Hon. Wm. W. Goodrich, Brooklyn.
Clark Bell, Esq., New York City.	Dr. Cyrus C. Harvey, Dundee, Yates Co.
Dr. Neil O. Fitch, Astoria, Long Island.	Prof. Willis G. Tucker, M. D., Director of Chemistry, Albany.
Dr. Leigh Hunt, New York City.	Charles Cowie, M. R. C. V. S., Ogdensburgh.
Hon. Judge Fred. E. Crane, Brooklyn, N. Y.	Claude D. Morris, D. V. S., Binghamton.
Frank Harvey Field, Esq., Brooklyn, N. Y.	H. E. Allison, M. D., Supt. Mattewan State Hospital.
Dr. Daniel A. Harrison, Supt., Whitestone, N. Y.	Thomas Darlington, M. D., President Board of Health, New York City.
Dr. Melvin B. Hubbs, Addison, Steuben Co.	Dr. Charles Wagner, Supt. State Hospital, Binghamton.
Hon. Judge O. P. Howell, Port Jervis, Orange Co.	Ex-Judge George B. Bradley, Corning.
Dr. Joseph J. Kindred, River Crest, Astoria, L. I.	Dr. James Henry McCabe, Senator 5th District of Kings Co.
Dr. Franklin J. Kauffman, Syracuse, Onondaga Co.	Dr. John F. Crosby, Seneca Falls.
Hon. Wm. P. Letchworth, Portage (Glen Iris), Livingston Co.	Dr. Willis A. Reeve, Patchogue, Long Island.
Michael J. Langan, Esq., Stapleton, Staten Island.	George H. Decker, Esq., Middleton, Orange Co.
Dr. William R. Morrow, Walton, Delaware Co.	Dr. John F. W. Meagher, Spt., Ogdensburgh.
Hon. Judge Safford E. North, Batavia.	Dr. G. F. M. Bond, Supt., Yonkers.
Hon. R. A. Parmenter, Troy.	Dr. George Chaffee, Brooklyn.
Dr. Fayette H. Peck, Utica.	Dr. H. C. Underhill, Brooklyn.
Hon. Wm. Popham Platt, White Plains, Westchester Co.	

Delancy F. Nichols, Esq., Brooklyn.	Hon. Jacob F. Miller, New York City.
Dr. J. Mount Bleyer, New York City.	Dr. Wm. S. Magill, New York City.
Dr. C. M. Amende, New York.	Dr. H. W. Mitchell, New York City.
Dr. Arthur C. Brush, Brooklyn.	Hon. J. Murray Mitchell, New York City.
Dr. E. M. Carqenter, New York City.	Dr. George T. Mundorff, New York City.
Dr. G. Lenox Curtis, New York City.	Hon. Frank Moss, New York City.
Dr. Fred W. Seward, Goshen.	Dr. Eugene Porter, New York City.
Hon. Judge A. J. Dittenhoefer, New York City.	Dr. William P. Wise, New York City.
Ex-Judge Hon. Chas. Donohue, New York City.	Henry Wollman, Esq., New York City.
Moritz Ellinger, Esq., New York City.	Dr. A. B. Jamison, New York City.
Thomas Frost, New York City.	Mrs. M. Louise Thomas, New York City.
Hon. Judge W. H. Francis, New York City.	Esther Herman, New York City.
Dr. Gabriel Grant, New York City.	Francis J. Lantry, Commr. of Charities, New York City.
Dr. Justin A. Merold, New York City.	Dr. John Vanderpoel, New York City.
Dr. Theodore H. Kellogg, New York City.	
Benno Loewy, Esq., New York City.	
Dr. Ernst J. Lederle, New York City.	

NORTH CAROLINA.

The following delegates have been recommended by the Committee for the State of North Carolina and notices sent to the gentlemen named:

Dr. G. G. Thomas, Wilmington.	Dr. Paul Paquin, Asheville.
Dr. S. W. Battle, Asheville.	Dr. Geo. W. Punfoy, Asheville.
Dr. Richard H. Lewis, 217 N. Wilmington St., Raleigh.	Dr. H. H. Waite, A. B., M. D., Asheville.
Dr. T. M. Mullin, Hereford.	Dr. Isaac M. Taylor, Moyartown.
Dr. O. E. Minston, Salem.	Dr. P. L. Murphy, Supt., Moyartown.
Dr. John Thames, Asheville.	Dr. J. W. Babcock, Supt., Columbia.
Dr. L. A. Scroggs, Southern Pines.	Dr. Jas. McKee, Supt., Raleigh.
Dr. J. C. Montgomery, Charlotte.	Dr. J. T. Miller, Supt., Goldsboro.
Dr. Robt. S. Young, Concord.	Dr. J. Andrew Crowell, Charlotte.
Dr. I. M. Taylor, Moyanlon.	Dr. C. S. McLaughling, Charlotte.
Dr. A. G. Carr, Durham.	Dr. Edward Register, Charlotta.
Dr. H. McKee Tucker, Raleigh.	Dr. Julian M. Baker, Tarboro.
Dr. A. R. Anderson, Wilson.	Dr. Joseph Homelway, Waynesville.
Dr. J. F. Bryant, Franklin.	Dr. A. T. Anderson, Wilson.
Dr. J. A. Burroughs, Asheville.	Dr. Henry T. Bahnson, Winston.
Dr. R. E. Hughes, Laurens.	Salem.
Dr. J. B. Kennedy, Granthan.	
Dr. Frank H. Russell, Wilmington.	
Dr. Chas. S. Jordan, Asheville.	
Dr. Lewis B. McBrayer, Asheville.	
Dr. E. R. Morris, Asheville.	

NORTH DAKOTA.

The delegates recommended to the Executive Board by the Committee for North Dakota and who have been notified of their action, are as follows:

Dr. O. D. Comstock, Fargo.	Dr. Chas. H. Kermott,
Dr. F. R. Smyth, Bismarck.	Ft. Totten.
Dr. H. D. Rowe, Casselton.	Dr. Henry H. Healey,
Dr. J. P. Aylen, Sheldon.	Grand Forks.
Dr. G. F. Erkine.	Dr. Henry M. Whaler,
Dr. L. B. Dohrman, Bottineau.	Grand Forks.
Dr. W. A. Gerrith, Enderton.	Dr. Wm. H. Welch, Larimore.
Dr. C. N. Callander, Fargo.	Dr. Gilbert B. Furniss, Mandan.
Dr. John H. Rindlaub, Fargo.	Dr. Voss Mohn, Minot.
Dr. Murdock MacGregor, Fargo.	Dr. Jas. P. Aylen.

OHIO.

The following delegates have been recommended by the officials of the Congress for the State of Ohio to the Executive Board for appointment as delegates to the American International Congress on Tuberculosis, to be held October 3, 4 and 5, 1904, under the auspices of the Universal Exposition, St. Louis, 1904; of the American Congress on Tuberculosis, and of the Medico-Legal Society of New York:

Dr. Alvin Eyer, Cleveland.	Prof. Peter T. Kilgour,
Dr. Webb J. Kelly, Piqua.	Cincinnati.
Dr. John C. Martin, Findlay.	Dr. Thomas V. Fitzpartick,
Dr. Wm. M. McKibben,	Cincinnati.
Cincinnati.	Dr. Albert I. Babendrier,
Hon. Judge Conway W. Noble,	Cincinnati.
Cleveland.	Dr. Nathaniel R. Coleman,
Dr. A. B. Richardson, Columbus.	Columbus.
Thomas F. Shay, Esq.,	Dr. Starling Loving, Columbus.
Cincinnati.	Dr. George C. Ashmun,
Dr. S. S. Thorne, Toledo.	Cleveland.
Hart Vance, Esq., Cleveland.	Dr. William A. Dickey, Toledo.
Dr. Clarence S. Ward, Warren.	Dr. Estell H. Rorick, Athens.
H. Clay White, Esq.,	Dr. Frank W. Harmon,
Cleveland.	Carthage.
Dr. Edward Perkins Carter,	Dr. W. Stanley Samson,
Cleveland.	Lancaster.
Dr. Edward Lauder, Cleveland.	Dr. Walter Ashe, Lebanon.
Dr. Roger G. Perkins, Cleveland.	Dr. Hannibal Bleson, Leesburg.
James U. Barnhill,	Dr. Homer C. Bennett, Lima.
A. M., Ph. D., M. D.,	Dr. Raymond D. Kahle, Lima.
Columbus.	Dr. Charles O. Dunlap,
William J. Means, A. M., M. D.,	McArthur.
Columbus.	Dr. John A. Lockard, Mansfield.
Dr. Jefferson C. Crossland,	Dr. Jacob Bohl, Marietta.
Zanesville.	Dr. Wm. S. Dabney, Marietta.
Dr. Byron Stanton, Cincinnati.	Dr. John B. McClure, Marietta.
Dr. William E. Lewis,	Dr. Louis C. Woltring, Marietta.
Cincinnati.	Dr. John W. Lowe, Mentor.
Dr. Bernard Tauber, Cincinnati.	Dr. John E. Russell, Mt. Vernon.
Dr. John W. Murphy, Cincinnati.	Dr. E. Bertram Holst, Rossford.

Dr. Pearle R. Madden, Xenia.	Dr. Henry S. Jewitt, Dayton.
Dr. Robert B. House, M. D., Springfield.	Dr. John H. McCassy, Dayton.
Dr. Chas. L. Minor, Springfield.	Dr. George Lantz, Dayton.
Dr. James Edgar Studebaker, Springfield.	Dr. Warren B. Keator, Findley.
Dr. Wm. H. Clewse, Canton.	Dr. Jacob A. Kimmel, Findley.
Dr. Chas. A. Crane, Canton.	Dr. John C. Martin, Findley.
Dr. Jacob F. Marehead, Canton.	Dr. Robt. C. Longfellow, Fostoria
Dr. Harry M. Schoffelt, Canton.	Dr. Dan Millikin, Hamilton.
Dr. A. B. Walker, Canton.	Dr. August Schmacker, Hamilton.
Dr. Geo. A. Geiger, Dayton.	Dr. Frank D. Bain, Kenton.

PENNSYLVANIA.

The delays in the official appointments from Pennsylvania, Ohio, Indiana and several other States, to so late a day, has put the several States in peril of non-representation at the Congress, and the Committees in these States had been authorized by the Executive Board to designate suitable representatives as delegates from such States who have not had delegates named by some responsible State official.

The delegates so named will be notified of the action and their consent to act requested, and in case of declination or vacancy, the Executive Board have been requested to fill such vacancy.

It has also been ordered that if, from shortness of time or other causes, the delegates find it difficult or impossible to complete their contribution by the date of the meeting of the Congress, that the time of such delegates to complete their contributions, discussions or papers, may be entered to date to be fixed by the Congress at its session, so that it can appear in the Bulletin of the Congress.

The delegation thus named from Pennsylvania, who have been notified, are as follows :

Dr. Samuel T. Davis, Lancaster.	Dr. Martin W. Barr, Elwyn.
John Fulton, C. E., Johnstown.	Dr. C. H. Hustis, Philadelphia.
R. Y. Cook, E-State Board of Health, Philadelphia.	Dr. George Strawbridge, Phila. Hos. for Nose, Throat, Philadelphia.
Dr. J. H. McClelland, Pittsburg.	Dr. Ely M. Brophy, Supt., Rush Hos. for Consumptives, Philadelphia.
Dr. C. H. Harny, Philadelphia.	Dr. William B. Atkinson, 1400 Pine St., Philadelphia.
Dr. Augustus Korndorfer, Philadelphia.	Dr. Alexander H. Davisson, 2024 Pine St., Philadelphia.
Dr. Louis H. Willard, Allegheny.	Dr. T. G. Simonton, 923 Fifth Ave., Philadelphia.
Dr. J. Guy McCandless, Pittsburg.	
Dr. J. Chris. Lange, Pittsburg.	

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| Dr. William S. Wadsworth,
1230 S. 57th St., Philadelphia. | Dr. Daniel E. Hughes,
Phila. Hos. for Insane,
Philadelphia. |
| Dr. Arland L. Darling,
Lawrenceville. | Dr. F. X. Dorcus, Philadelphia. |
| Dr. William S. Ross, Altoona. | Dr. Charles Spencer Kinney,
Supt., Easton. |
| Dr. J. Wesley Howe, Altoona. | Dr. A. T. White, Connellsville. |
| Dr. Herbert A. Arnold, Ardmore. | Ex-Governor W. A. Stone. |
| Dr. Walter Chrystin,
Bryn Mawr. | Dr. Guy Hinsdale,
3943 Chestnut St., Philadelphia. |
| Dr. John S. Niles, Carbondale. | Dr. Augustus A. Eshner,
224 S. 16th St., Philadelphia. |
| Dr. Harry J. S. Kelm,
Catasaqua. | Dr. Thomas L. Hazzard,
515 Penn Ave., Allegheny. |
| Dr. W. Knowles Evans,
Chester. | Dr. James H. Wright,
992 California Ave., Allegheny |
| Dr. William H. Dudley, Easton. | Dr. Morris F. Cawley, Allentown |
| Prof. Dr. Isaac Ott, Easton. | Dr. Palmer J. Kress, Allentown. |
| Dr. Jacob D. Updegrove, Easton | Dr. Calvin L. Johnstonbaugh,
Bethlehem. |
| Dr. Fred. W. Powell,
Honesdale. | Dr. B. H. Hall, Bradford. |
| Prof. Dr. William H. Harrison,
Easton. | Dr. Fred. W. Winger, Bradford. |
| Dr. Elmer Ellsworth McAdoo,
Lancaster. | Dr. James B. Barth, Charleroy. |
| Dr. William J. Shoemaker,
Lock Haven. | Dr. William B. Ullrich, Chester. |
| Dr. R. Beville Watson,
Lock Haven. | Dr. William Pitt Kennedy,
Dickson City. |
| Dr. Henry C. Yeagley,
Lancaster. | Dr. John F. Culp, Harrisburg. |
| Dr. Clara Marshall,
Women's Medical College,
Philadelphia. | Dr. Paul A. Hartman,
Harrisburg. |
| Dr. Joseph E. Milletts,
Pittsburg. | Dr. J. Walter Park, Harrisburg. |
| Dr. Augustus Niles, Wellsboro. | Dr. M. R. Pritchard,
Harrison Valley. |
| Dr. H. B. Meredith, Danville. | Dr. James McKellar, Hazleton. |
| Dr. John B. Chapin, Spt.,
Philadelphia Hospital,
Philadelphia. | Dr. Andrew B. Brumbaugh,
Huntington. |
| | Dr. Joseph R. Beckley, Lebanon. |
| | Dr. George G. Groff, Lewisburg. |
| | Dr. Joseph B. Clifford,
McKeesport. |

RHODE ISLAND.

The Governor of Rhode Island, Hon. Lucius F. C. Garvin, has sent the following communication. The delay in sending this will prevent the Management sending the notices to the delegates in time:

September 28, 1904.

Mr. Clark Bell, 39 Broadway, New York, N. Y.

Dear Sir:—Governor Garvin has appointed the following delegates from this State to the American Congress on Tuberculosis, to be held in St. Louis, October 3, 4 and 5, 1904:

- | | |
|---|---|
| William F. Gleason, M. D.,
Providence. | C. Alvin Potter, Esq.,
Chairman of Com. on State
Sanatorium for Consumptives,
Cranston. |
| George H. Kenyon, M. D.,
Sur. Gen. of Rhode Island,
Providence. | William H. Peters, M. D.,
Physician in charge of Pine
Ridge Sanatorium for Con-
sumptives, Providence. |
| Lester S. Hill, M. D.,
Asst. Sur. Gen. of R. I.,
Providence. | |

All the above named gentlemen have announced their intention to be present.

Sincerely yours,
ROBERT GRIEVE, Executive Secretary.

TEXAS.

Perhaps no State in the American Union has such an enormous future before her as the State of the Lone Star. Certainly none a more brilliant and eventful history; greater or more diversified resources, and, in my opinion, none with a higher destiny for power, progress and the evolution which will, before the middle of our century is reached, be the great political factor and force south of the Mason and Dixon line. She has every element of empire within her boundaries. She produces the winter wheat of the North and the rice and cotton and banana of the tropics. Larger than Belgium, she could feed all the people of Belgium. Time and not much time will place her far in the fore front of all the States of the South as they are classed today in the great future that awaits our country before 1950.

No one can measure the destiny of this imperial State, which will, with the energy of its pioneers and the cosmopolitan mixture of races now pouring into her borders, developing a soil that produces two crops a year without manure, where stock can graze in all seasons, will show an increase of population, of such quantity and force, as will class it among the first of the American States in every element of production.

Her Governor has delayed the nomination of her delegates to this Congress till the end of August. We have received the following on the 31st of August, sent on August 27th:

Executive Office, State of Texas, Austin, August 27, 1904.

Hon. Clark Bell, New York.

Dear Sir:—In accordance with your recent request, the Governor instructs me to hand you the enclosed list of delegates appointed by him to the American International Congress of Tuberculosis, to be held in St. Louis, Mo., the 3rd to 5th of October, inclusive.

Yours truly,

N. A. CRAVENS,
Private Secretary.

The Governor today appointed the following list of delegates to the American International Congress of Tuberculosis, to be held in St. Louis, Mo., October 3rd to 5th, inclusive:

Dr. Joe Becton, Greenville.	Dr. W. A. Harper, Austin.
Dr. W. B. Russ, San Antonio.	Dr. R. W. Knox, Houston.
Dr. James H. Bute, Houston.	Dr. R. E. Moss, San Antonio.
Dr. W. M. Brumby, Houston.	Dr. J. A. Mullen, Houston.
Dr. W. S. Carter, Galveston.	Dr. J. T. O'Barr, Ledbetter.
Dr. P. C. Coleman, Colorado.	Dr. S. P. Rice, Marlin.
Dr. Wm. Gammon, Galveston.	Dr. A. C. Scott, Temple.
Dr. F. J. Gilson, Calvert.	Dr. J. S. Wooten, Austin.
Dr. H. J. Hamilton, Laredo.	Dr. W. C. Blalock, Kosse.

Dr. J. B. Burditt, Bellville.	Dr. J. D. Hooker, Alice.
Dr. J. H. Burleson, San Antonio.	Dr. W. G. Jameson, Palestine.
Dr. P. L. Campbell, Dallas.	Dr. J. E. Morris, Madisonville.
Dr. E. H. Cary, Dallas.	Dr. P. M. Raysor, Bryan.
Dr. W. A. Durringer, Ft. Worth.	Dr. Frank Paschal, San Antonio.
Dr. A. Garwood, New Braunfels.	Dr. Bacon Saunders, Ft. Worth.
Dr. M. B. Grace, Seguin.	Dr. E. M. Thomas, Georgetown.
Dr. H. L. Hilgartner, Austin.	Dr. W. R. Thompson, Ft. Worth.

VIRGINIA.

Prof. George Ben Johnston, M. D., of the Medical College, of Virginia, sends the following reply to the invitation sent him to take part in the opening ceremonies of the Congress :

Richmond, Va., Sept. 22, 1904.

Clark Bell, LL. D., Chairman Committee on Organization.

My Dear Sir:—I have the honor to acknowledge your communication of September 13th, in which you request me to take part in the opening ceremonies of the American International Congress on Tuberculosis, to be held in St. Louis October 3, 1904.

I regret exceedingly that pressing engagements will not allow me to participate in the proceedings of the important Congress. The work undertaken by this Congress should receive the sympathy and co-operation of every public spirited citizen, and it is to be hoped that such an impression will be made as to direct public attention to the efforts which the Congress is engaged in and thus facilitate the noble enterprise.

Expressing much regret at my inability to be with you on this occasion, I remain,

Yours very respectfully,

GEORGE BEN JOHNSTON.

The Board of the Congress, on the report of its committee of officers, fearing that the action of the officials of the State might not be sent in time, have sent notices of their appointment to the following delegates of that State:

Prof. Landon B. Edwards, M. D., Richmond.	Dr. Geo. Baughman, Richmond.
Prof. John Dunn, M. D., Richmond.	Dr. W. Brownley Foster, Richmond.
Prof. J. Allison Hodges, M. D., Richmond.	Dr. Sturat McGuire, Richmond.
Prof. W. B. Jones, M. D., Phd., Richmond.	Dr. Wm. M. Copenhaver, Bristol.
Prof. H. Stuart McLean, Richmond.	Prof. John W. Mattet, M. D., Charlottesville.
Prof. Wm. H. Taylor, Richmond.	Prof. W. A. Laurbeth, M. D., Charlottesville.
Prof. Geo. Ben Johnson, Richmond.	Prof. J. Carroll Flippin, M. D., Charlottesville.
Prof. J. Paige Massie, Richmond.	Dr. Robt. W. Robinson, Danville.
Prof. John P. Davidson, Richmond.	Dr. S. E. Shelburne, Dott, Lee Co.
Prof. Emerson G. Williams, Richmond.	Dr. Lucien Lofton, A.B., M.D., Emporia.
Dr. J. M. Whitfreid, Richmond.	Prof. G. Wesley Drake, Hollins.
Dr. D. A. Kuyle, Richmond.	Dr. Jos. R. Grice, Portsmouth.
	Dr. S. Delaney Hicks, M. D., Richmond.

WISCONSIN.

The Governor of Wisconsin has announced the appointment of the following delegates to represent that State at the American International Congress on Tuberculosis, on October 3, 4 and 5, next.

We regret the lateness of the hour at which these appointments were made and announced to the management. They came to our hands on September 26th, almost too late to give the delegates named due notice, but we shall endeavor to do the best that can be done.

Dr. Hasso A. Meilke, Clintonville, Waupaca Co.	Dr. E. H. Parker, Eau Claire, Eau Claire Co.
Dr. Cornelius A. Harper, Madison, Dane Co.	Dr. L. B. Shehan, Eau Claire, Eau Claire Co.
Dr. Leonard E. Spencer, Wausau, Marathon Co.	Dr. P. H. Lindley, Chippewa Falls, Chippewa Co.
Dr. Q. O. Sutherland, Janesville, Rock Co.	Dr. C. F. Colter, Marinette, Marinette Co.
Dr. F. C. Suiter, LaCrosse, LaCrosse Co.	Dr. G. W. Parham, Necedah, Juneau Co.
Dr. William F. Whyte, Watertown, Jefferson Co.	Dr. W. H. Sarles, Sparta, Monroe Co.
Dr. Hugo Philler, Waukesha, Waukesha Co.	Dr. Byron C. Meacher, Portage, Columbia Co.
Dr. Charles Oviatt, Oshkosh, Winnebago Co.	Dr. Julius Noer, Stoughton, Dane Co.
Dr. Moses J. White, Milwaukee, Milwaukee Co.	Dr. N. C. Evans, Mount Horeb, Dane Co.
Dr. G. A. Richie, Appleton, Outagamie Co.	Dr. W. T. Pinkerton, Mazomanie, Dane Co.
Hon. Alvin C. Bragerm, Milwaukee, Milwaukee Co.	Dr. L. V. Lewis, Sun Prairie, Dane Co.
Dr. William J. Cronyn, Milwaukee, Milwaukee Co.	Dr. T. A. Lidd, Marinette, Marinette Co.
Dr. Arthur Patek, Milwaukee, Milwaukee Co.	Dr. George Hoyt, Menomonie Falls, Waukesha Co.
Dr. R. E. Minehan, Green Bay, Brown Co.	Dr. E. W. Malone, Waukesha, Waukesha Co.
Dr. H. L. Russell, Madison, Dane Co.	Dr. W. A. Jones, Oconomowoc, Waukesha Co.
Dr. G. A. Klettsch, Milwaukee, Milwaukee Co.	Dr. R. B. Clerk, Monroe, Green Co.
Dr. Gustav Schmidt, Milwaukee, Milwaukee Co.	Dr. A. H. Levings, Milwaukee, Milwaukee Co.
Dr. W. P. Roberts, Janesville, Rock Co.	Dr. J. S. O'Brien, Wells Bldg., Milwaukee, Milwaukee Co.
Dr. U. O. B. Wingate, Milwaukee, Milwaukee Co.	Dr. B. C. Gudden, Oshkosh, Winnebago Co.
Dr. W. J. Pearce, Dodgeville, Iowa Co.	Dr. H. A. Gilbert, Madison, Dane Co.
Dr. A. C. Kellogg, Portage, Columbia Co.	Dr. Ignatius G. Steffen, Antigo, Langlade Co.
Dr. E. S. Hayes, Eau Claire, Eau Claire Co.	Dr. Herman Reineking, Milwaukee, Milwaukee Co.

Hon. Albert Karel, Algoma, Kewaunee Co.	Dr. W. H. Macdonald, Lake Geneva, Walworth.
Dr. F. P. Epley, New Richmond, St. Croix Co.	Dr. Kate Kelsey, Menomonie, Dunn Co.
Dr. J. B. Trowbridge, Hayward, Sawyer Co.	Dr. F. A. Rice, Delavan, Walworth Co.

Resolved, That the importance of the subject involved; the lateness of the dates at which so many of the delegates were selected makes it necessary, in the opinion of this Congress, that the time to submit papers and continue the discussion upon this topic be extended to January 1 next, and if necessary to such further date as the Executive Board may fix to enable additional contributions to be made, and embraced in the Bulletin of this Congress or in its published transactions.

DOMINION OF CANADA.

The Provincial Governments were not aware that it was the wish of the management of the Congress that delegates be named by the Provincial Secretaries or the Provincial Governments.

It was for this reason that Provincial delegates were not named, except those named by the Provincial Government in Ontario and some of the Provinces.

Notwithstanding the late date, the management of the Congress decided to name Provincial delegates on the recommendation of its Committee on Provincial and State delegates.

It is almost certain that then the time to submit contributions will be extended for the Symposiums to at least January 1, 1905, to enable the delegates, State and Provincial, that were appointed to take part in the discussion, who would otherwise have no opportunity to do so, whether they attended the Congress or not. These delegates will be allowed to send their contributions after the session up to January 1, 1905, and they will be allowed to send in their contributions later.

The delegates so named are as follows :

BRITISH COLUMBIA.

Dr. W. J. McGuigan, Vancouver.	Dr. J. M. Lefevre, Vancouver.
Dr. O. M. Jones, Victoria.	Dr. G. M. Manchester, Supt., New Manchester.
Dr. J. A. Duncan, Victoria.	Dr. J. M. Pearson, Vancouver.
Dr. J. C. Davie, Victoria.	Dr. N. M. Robertson, Victoria.
Dr. R. E. McKechnie, Nanaimo.	

MANITOBA.

Dr. J. R. Jones, Winnipeg.	Dr. Robt. S. Thornton, Doloraine
Dr. Geo. Riddell, Crystal City.	Dr. Jared N. Andrew, Minnedosa.
Dr. J. S. Gray, Winnipeg.	
Dr. D. Young, Supt., Seekirk.	Dr. R. Percy Crookshank, Rapid City.
Dr. J. Halpenny, Winnipeg.	
Dr. F. L. Shaffner, Bossevain.	Dr. H. Aubray Husband, Wauwanesa.
Dr. T. J. Lamont, Treherne.	
Dr. S. Gordon Bell, Winnipeg.	

PROVINCE OF NEW BRUNSWICK.

Dr. C. T. Purdy, Moncton.	Dr. Geo. C. Van Wart, Fredicton.
Dr. Thomas Walker, St. John.	
Dr. Stewart Kinner, St. John.	Dr. Robert L. Bottsford, Moncton.
Dr. G. A. Hethington, Supt. Provincial Hos. for Insane, Fairville Village.	Dr. Donald McDonald, Pettitcodine.
Dr. D. W. Ross, Florenceville.	Dr. Geo. Hethington, St. John.
Dr. J. R. McIntosh, St. John.	Dr. Murray McLarue, St. John.
Dr. T. D. Walker, St. John.	Dr. James A. Sterns, St. John.
Dr. James Bridges, Fredicton.	Dr. Thos. Dysonnaker, St. John.
	Dr. W. F. Roberts, St. John.

NORTH WEST TERRITORIES.

Dr. G. A. Kennedy, MacLeod.	Dr. Wm. H. Field, Regina.
Dr. M. M. Seymour, Fort Ruappelle.	Dr. Victor Bonjou, Stataluta.
Dr. R. Britt Bauff.	Dr. Seymour Archibald, Stratheona.
Dr. Dudley J. Bell, Dawson City.	Dr. Robert D. Robertson, Welaskuin.
Dr. Wm. G. Mitchell, Dawson City.	Dr. Jas. R. Bird, Whitewood.
Dr. Wm. M. McKay, Dawson City.	Dr. Wm. Elliott, Wolseley.
	Dr. L. Edward Cash, Yorkton.

NOVA SCOTIA.

Dr. J. Clinton Morse, Amherst.	Dr. W. N. Kenney, Halifax.
Dr. Danl. McN. Parker, Dartmouth.	Dr. F. P. Taylor, Charlotteton.
Dr. David H. Muir, Truro.	Dr. John W. McCay, New Glasgow.
Dr. W. H. MacDonald, Antigonish.	Dr. Guy Carlton Jones, Halifax.
Alex. D. MacGillivray, Sydney.	Dr. G. E. DeWitt, Wayville.
Dr. Geo. L. Sinclair, Halifax.	Dr. Geo. W. T. Parriste, Yarmouth.
Dr. J. F. Black, Halifax.	Dr. Wm. Scott Muir, Truro.
Dr. Wm. Tobin, F. R. C. S., Halifax.	Dr. Foster F. Eaton, Truro.
Dr. Geo. L. Sinclair, Halifax.	Dr. Duncan K. McIntyre, Sydney.
Dr. James H. Dow, Halifax.	Dr. Arthur S. Kendall, Sydney.
Dr. John North, Halifax.	Dr. Percy Holmes, Pansborough

PROVINCE OF ONTARIO.

Dr. Denis P. Lynch, Almonte.	Dr. Arthur Mattory, Hillsdale.
Dr. Wm. A. Cameron, Ampuor.	Dr. Thomas W. Connell, Kingston.
Dr. W. Robert Hall, Chatham.	
Dr. Walter D. Wiley, Dresden.	Dr. Thos. Owens, London.
Dr. Alexander Scott, Forest.	Dr. Wm. F. Roome, London.
Dr. J. Henry Elliott, Gravenhurst.	Dr. Wm. A. Young, Toronto.
Dr. Thomas W. Reynolds, Hamilton.	Dr. James P. Kennedy, Wingham.
Dr. Wm. P. Ct. Charles, Asylum for Insane, Hamilton.	Dr. Andrew Mackay, Woodstock

PROVINCE OF QUEBEC.

Dr. L. A. Beaudry, St. Hyacinth.	Dr. Geo. Bowen, A. M., Magog.
Dr. E. Bruno LaHaye, St. Anne de la Pasode.	Dr. James Vaughn, Supt., Montreal.
Dr. J. T. A. Ganthier, Valleyfreed.	Dr. Alfred T. Bazin, Montreal.
Dr. T. Jno. Burgess, Supt., Montreal.	Dr. P. Paul Boulanger, Montreal.
Dr. Arthur Vallee, Supt., Quebec.	Dr. R. Tait Mackenzie, 913 Dorchester St., Montreal.
Dr. E. Turcot, St. Hyacinth.	Dr. Avella Marsolais, 159 St. Denis St., Montreal.
Dr. Jude Ocanirand, Sherbrook.	Dr. Geo. Villeneuve, 1525 Ontario St., Montreal.
Dr. E. P. Chaguon, 119 N. Lavel Av., Montreal.	Dr. Albert Marois, Quebec.
Dr. Edward H. Provincial, Beauport.	Dr. Arthur Robitente, Quebec.
Dr. J. E. Montgomery, Grand Marc.	Dr. C. L. Robillard, St. Huri de Montreal.
Dr. J. Alex. Brown,	Dr. Ludger Labelle, Montreal.
	Dr. Jos. Valois, Vandreial.

PRINCE EDWARD ISLAND.

Dr. Richard Johnson, Charlottetown.	Dr. V. L. Goodwill, Supt., Falconwood Hos. for Insane, Charlottetown.
Dr. F. P. Taylor, Charlottetown.	Dr. Anderson, Supt., Public Institution, Charlottetown.
Dr. H. W. Robinson, Crapand.	
Dr. A. Ross, Alberton.	Dr. Stephen R. Jenkins, Charlottetown.

ONTARIO, CANADA.

The Management has received the following from the Secretary of the Provincial Board of Health of Ontario:

Toronto, September 15, 1904.

Dear Sir:—I have much pleasure in informing you that Dr. E. E. Kitchen, St. George, Chairman of the Provincial Board of Health, and Dr. R. P. Boucher, Peterborough, a member of the Board, have been appointed representatives to attend the forthcoming Congress on Tuberculosis, in St. Louis.

I would thank you to forward any particulars you may have regarding programme, etc., to these gentlemen, at as early a date as possible.

Believe me,

Yours truly,

CHAS. A. HODGETTS, Secretary.

Dr. Clark Bell, Chairman Executive Committee of the American International Congress on Tuberculosis, 39 Broadway, New York.

MEXICO.

President Porfiro Diaz, of the Republic of Mexico, and Senor Ignacio Mariscal, Minister of Foreign Relations of that country, have accepted the position of Honorary Vice-Presidents of the American International Congress on Tuberculosis, and have sent their portraits for reproduction.

The following is a translation of the official communication made by Dr. Y. Barra, the enterprising Secretary of the Congress for the Spanish-speaking countries:

Minister of Foreign Relations.

Mexico City, August 25, 1904.

Senor Doctor Agustin M. Fernandez de Ibarra, Secretary for the Latin-American Countries in the American International Congress on Tuberculosis, 302 Second Avenue, New York City.

My Dear Sir and Gentleman of my high consideration:—

I have had the honor of receiving your courteous letter, in which you tell me, on request of the Hon. Clark Bell, President of the Committee on Organization and of the Board of Executive Officers of the American International Congress on Tuberculosis, which is to take place next October at the Universal Exposition of St. Louis, that the President of this Republic and myself have been honored with the appointment of Honorary Vice-Presidents of that Congress.

We are both truly grateful for such a distinction, which we appreciate in all its worth, and it is very agreeable to me to tell you that taking in consideration the importance of the object that Congress pursues, the Government and the President of this Republic approve of it and have given the necessary orders to the Minister of the Interior to take the matter in hands and appoint the contingent of official delegates with which Mexico contributes to such a philanthropic gathering.

I improve this opportunity, sir, to offer you the assurance of my high consideration and distinction.

(Signed.) IGNACIO MARISCAL.

NEW MEXICO.

Santa Fe, Aug. 30, 1904.

Dear Sir:—I take pleasure in enclosing herein executive order appointing fifteen delegates to represent the Territory of New Mexico at the American International Congress on Tuberculosis, to be held in St. Louis, next October. The names and address of the delegates are given in said order, and I trust they may be able to attend.

Very respectfully,

MIGUEL A. OTERO, Governor of New Mexico.

Clark Bell, Esq., Chairman American Congress on Tuberculosis, 39 Broadway, New York, N. Y.

Santa Fe, N. M., Aug. 30, 1904.

WHEREAS, The American International Congress on Tuberculosis will be held under the auspices of the Universal Exposition, at St. Louis, October 3, 4 and 5, 1904; and

WHEREAS, The Governor of New Mexico has been requested to appoint delegates to represent the territory at said Congress;

NOW, THEREFORE, I, MIGUEL A. OTERO, Governor of the Territory of New Mexico, by virtue of the authority in me vested, do this day appoint the following named persons as delegates to represent New Mexico at the said American International Congress on Tuberculosis:

James A. Massie, M. D.,	T. P. Martin, M. D.,
Santa Fe, N. M.	Taos, N. M.
J. M. Diaz, M. D.,	Samuel D. Swope, M. D.,
Santa Fe, N. M.	Deming, N. M.
W. R. Tipton, M. D.,	J. J. Shuler, M. D.,
Las Vegas, N. M.	Raton, N. M.
R. D. Black, M. D.,	Geo. C. Bryan, M. D.,
Las Vegas, N. M.	Alamogordo, N. M.
John F. Pearce, M. D.,	W. T. Joyner, M. D.,
Albuquerque, N. M.	Roswell, N. M.
C. H. Connor, M. D.,	Mr. L. O. Fyllen,
Albuquerque, N. M.	Carlsbad, N. M.
P. H. Carrington, M. D.,	Mr. E. W. Hulbert,
Fort Stanton, N. M.	Lincoln N. M.
F. A. Bushnell, M. D.,	
Fort Bayard, N. M.	

Done at the Executive office this the 30th day of August, A. D. 1904. Witness my hand and the great seal of the Territory of New Mexico.

MIGUEL A. OTERO.
By the Governor: J. W. RAYNOLDS,
Secretary of New Mexico.

PERU.

The Department of State of the Government of the United States has notified the Management of the American International Congress on Tuberculosis, that the American State Department has been advised by the American Minister, at Lima, on the 12th of August last, that Doctor David Matto has been appointed a delegate by the Peruvian Government to the American International Congress on Tuberculosis of St. Louis.

THE SOCIETY OF GERMAN NATIONALISTS AND PHYSICIANS.

The chairman of the Committee on Organization has received from the President of this distinguished body a letter of which the following is a translation :

Prague, 25-7, 1904.

Highly Honored Mr. Colleague:

Replying to your favor of June 15, 1904, I have the honor, as the present First Presiding Officer of the Society of German Naturalists and Physicians, to inform you that I have requested Mr. Privy Councillor Professor Dr. van't Hoff, to represent the Society of German Naturalists and Physicians as delegate to the American International Congress on Tuberculosis.

Very respectfully,

PROFESSOR CHIARI.

Prof. Dr. Von T. Hoff is one of the most eminent chemists on the European continent. He is to speak at St. Louis, in the International Congress, on Arts and Science. It would be a source of great pleasure to the Congress if Prof. Von T. Hoff could represent this body at the American International Congress on Tuberculosis, in October.

LETTER OF SYMPATHY IN THE WORK OF THE CONGRESS.

Judge David J. Brewer, of the Supreme Court, at Washington, D. C., sends the following:

Washington, Sept. 17, 1904.

Hon. Clark Bell, Dundee, N. Y.

Dear Sir:—I have the invitation of the American International Congress on Tuberculosis to be present at the ceremonies of the Congress in St. Louis, October 3. I regret that other engagements will prevent my attendance. I trust your gathering may be pro-

ductive of great good. Having lost a daughter through the dread disease I am specially interested in all efforts to stay the scourge.

Very truly your,

DAVID J. BREWER.

THE GOVERNMENT OF SALVADOR.

Executive Palace, Republic of Salvador, Ministry for Foreign Affairs.

City of Salvador, Aug. 18, 1904.

Dr. Augustin M. Fernandez de Ybarra, Secretary for the Spanish Speaking Countries in the American International Congress on Tuberculosis, 302 Second Avenue, New York City.

My Very Highly Appreciated Sir:—I have the honor to answer your very polite letter dated July 24th last, and addressed to the Minister for Foreign Relations of this Republic, from whom I received instructions to give it a reply in harmony with the purport of your letter, which I hereby take pleasure to do.

By request of the Honorable Clark Bell, Esq., President of the Committee on Organization and of the Board of Executive Officers of the American International Congress on Tuberculosis, which is to be held at the Universal Exposition of St. Louis, Mo., on the 3rd, 4th and 5th days of October next, and you notify the President of this Republic and also his Minister for Foreign Affairs, that they both have been nominated as Honorary Vice-Presidents, and that they should be kind enough to say whether they accept or not the nomination, whether they would be present at the meeting of the Congress or not, and in case they could not do so if they would kindly appoint one or two official delegates from this country and write a letter of sympathy with the aim that Congress pursues—the extirpation of Tuberculosis.

I begin my answer by begging you to tell the honorable gentleman, Clark Bell, Esq., as well as the rest of the members of the Committee on Organization and the Board of Executive Officers, that the Minister for Foreign Affairs feels extremely obliged and grateful for the honor that has been conferred on him, and that he accepts very much pleased.

A similar expression of feeling I suppose has already been made to you, as soon will be made, by the President of the Republic, borne out of the same consideration.

The object your Congress has in view is so worthy of praise and of such a transcendental character as well as universally beneficial, that this government has not hesitated in accepting the invitation made through your precious intervention, and has engaged the eminent Dr. Tomas G. Palomo as official delegate to represent this country in your Congress. That famous physician offered at the beginning great objection to accept the appointment because he has a very large practice, private and very profitable, which he is thus obliged to abandon for some time, and also on account of his being the Superintendent of the largest general hospital we have in this capital.

With what I have already stated to you, sir, I believe I have duly answered your polite and highly appreciative letter which the temporary absence of the Minister for Foreign Affairs prevents him to reply in person, but gave me full power and instructions, as Assistant Minister for Foreign Affairs, to do it myself.

Congratulating myself in respectfully saluting you, my dear sir, and in clasping your hand.

I remain truly yours,

(Signed) IUAN I. CANOS,

Assistant Minister for Foreign Relations.

MEXICO.

Embajador de Mexico.

Washington, Sept. 20, 1904.

Mr. E. J. Barrick, M. D., President of the American International Congress of Tuberculosis, New York.

Dear Sir:—Replying to your courteous invitation, dated September 13th, to take part in the opening ceremonies of the Congress, I am sorry to present you my constrained excuse, as official duties prevent me from remaining in Saint Louis, Mo., at the time of the opening ceremonies.

Because of my inability to be present, I have to bound myself to expressing my deep interest in and sympathy with the aims and purposes of that highly humanitarian Congress.

Yours truly,

M. DE ARPIVOR.

LOCAL AUXILIARY COMMITTEE OF ARRANGEMENTS AND RECEPTION AT ST. LOUIS.

The Executive Board and Committee on Organization of the American International Congress on Tuberculosis have decided to organize a Local Auxiliary Committee of Arrangements and Reception.

Dr. J. R. Lemen, of St. Louis, Missouri, has accepted the chairmanship and prominent medical men of St. Louis and Missouri have been invited to serve on the committee.

It will make provision for suitable accommodations for room for members and delegates, in private houses or hotels at reasonable prices. This plan was adopted at the International Medical Congress of 1900, at Paris, and was completely successful. The delegates at Paris applied to the committee and were furnished with the address of those with whom the committee had made previous arrangements and the delegate selected those he liked best.

The Chairman of the Committee of Arrangements of this Congress, in Paris was thus supplied with good accommodations for room. This can be done at St. Louis.

A sub-committee will have this in charge, and a sub-committee will arrange the details of a dinner, to be given probably on the evening of the second day. The following acceptances have already been made:

Dr. J. R. Lemen, Chairman; Dr. J. Wood Fassett, Dr. Marc R. Hughes, Dr. H. L. Ferrel, Dr. Benj. M. Hypes, Dr. A. R. Kieffer, Dr. Frederick Kolbenheyer, Dr. Bransford Lewis, Dr. W. A. McCandless, Dr. Wm. M. McPheeters, Dr. W. F. Morrow, Dr. C. M. Nicholson, Dr. W. B. Outten, Dr. A. H. Ohman Dumesuil, Dr. Wm. Porter, Dr. Robert E. Schleuter.

This committee will enlarge its membership and complete its formal organization, appoint its sub-committees and be of great service and benefit to the members and delegates in providing for their reception and comfort while at the Congress.

LOCAL AUXILIARY COMMITTEE OF ARRANGEMENTS AND RECEPTION.

The following call was issued October 1, 1904, by Dr. J. R. Lemen, Chairman:

American International Congress of Tuberculosis.
Headquarters of the Management.

The Grand View Fraternal Hotel.

Dear Colleague:—The Local Auxiliary Committee of Arrangements and Receptions is hereby called to meet at the Convention Hall at 8:30 a. m. on Monday, October 3rd, for conference and action. A large attendance is desired.

respectfully yours,

J. R. LEMEN,

Chairman Auxiliary Committee Arrangements and Receptions,
Venol Building.

P. S. The headquarters of the Congress will be at the Grand View Fraternal Hotel.

LOCAL AUXILIARY COMMITTEE OF ARRANGEMENTS AND RECEPTIONS.

Dr. J. R. Lemen, Chairman, 3223 Lucas Ave.	Dr. Bransford Lewis, 627 Century Bldg
Dr. H. E. Ferrel, 822 N. Channing Ave.	Dr. William McPheeters, 3452 Pine St.
Dr. J. Wood Fassett, St. Joseph, Mo.	Dr. C. A. McCandless, 3857 West Belle.
Dr. Marc R. Hughes, 3857 Olive St.	Dr. W. F. Morrow, Kansas City, Mo.
Dr. B. M. Hypes, 2005 Victor St.	Dr. C. M. Nicholson, 2900 Washington Ave.
Dr. A. R. Kleffer, 4378 West Belle.	Dr. W. B. Outten, 3575 Pine St.
Dr. Frederick Kolbenheyer, 2006 Lafayette Ave.	Dr. A. H. Ohlman-Dumesnil, 5 S. Broadway.
	Dr. Wm. Porter, 3886 Washington Ave.
	Dr. R. E. Schleuter, 909 Pine St.

THE AMERICAN CONGRESS ON TUBERCULOSIS. COMMENTS OF THE PRESS OF ST. LOUIS.

Notices of the American Congress on Tuberculosis to open October 3, 4 and 5, in that city:

The St. Louis Republic of Sunday, October 2, 1904.

THE TUBERCULOUS CONGRESS.

For the American Congress on Tuberculosis a better time than this could not have been chosen. The enthusiasm created by results of the British and German Congresses, in recent years, has spread into all parts of the United States. And it may now be said in the utmost good faith that the hope which is held out by physicians to the victims of consumption must inspire all progressive States and municipalities to make provisions for prevention and cure.

While European physicians have been devoting their talents to research, especially bacteriological research, to understand the disease and to find a medicinal curative, American physicians have been more disposed to give patients the benefits of nature. The American plan is the more practical, and so far is the more successful.

In fact, the American treatment is found so efficacious that physicians, usually garrulous with assurances of cure, do not hesitate to say that consumption is curable. The treatment enables them to transcend their ethics so far as to say that it is a preventable disease.

Since it is now known that consumption is both preventable and curable, and since rules for prevention and methods for cure are the property of all practitioners, there is a general movement to bring the advantages to all sufferers. This is why the American Congress on Tuberculosis, at the World's Fair, October 3-5, is held at an opportune time.

Boards of Health of States and municipalities, among which may be mentioned Illinois and St. Louis, are educating the public in the rules for preventing consumption. The same boards are making great efforts to establish sanitarium for the cure of consumption. In the East and the West the sanitarium which have been in commission for some time are pronounced successful, and consequently the fresh-air treatment of consumption is gaining prestige everywhere in this country.

This Congress will bring opinions concerning prevention into greater prominence, both with the public and with physicians. It should give an impetus to the endeavors to establish State and municipal sanitarium.

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PROF. CHARLES H. HUGHES,
St. Louis, Mo.,
Honorary President of the American International Congress on Tuberculosis.



HON. L. BRADFORD PRINCE,
Ex-Chief Justice, Santa Fe, New Mexico,
Second Vice President American Congress on Tuberculosis.

OFFICERS OF THE AMERICAN CONGRESS ON
TUBERCULOSIS, 1904.

TEXAS.

Dr. F. E. Daniel, of Austin, Texas, is the First Vice-President of the American International Congress on Tuberculosis, the President of the State Medical Society of that great State, and the Editor of the Texas Medical Journal.

The August number of this standard journal thus notices the coming Congress at St. Louis on Tuberculosis:

At St. Louis, the first week in October next, there will assemble the largest, ablest and most representative body of medical and lay sanitary scientists from all parts of the civilized world that ever met anywhere.

The cause that brings them together is that grand problem in sanitary science and political economy that so largely affects the welfare,—nay, the integrity of civilized peoples: How to stay the ravages of consumption. They will meet, not for mere academic discussion, or for clinical and pathological hair-splitting, but to devise and put in execution measures of prevention—the only potent way of dealing with the scourge. Encouraged by the success with which sanitary science has dealt with so many other destructive diseases,—the eradication of cholera, plague, diphtheria, smallpox, and now that great Southern scourge, the “safron demon,” which like a deadly upas casts its shadow annually over our land, the dreaded yellow fever, it is hoped that in this assembling of learned men some Finlay, Jenner, Koch or Pasteur may arise; some Moses to show the way. Every European nation, some of the Asiatic, and all the American States, North and South, including, of course, the Dominion of Canada, and Mexico, will be represented by their ablest men, and a gigantic and far-reaching reform will be inaugurated. It is hoped to enlist the law-making powers of every government in the work, for, without legislation and money and earnest and capable workers, little can be done.

People, Congresses and Legislatures are slow to recognize that the public health is the foundation stone upon which alone a strong, vigorous and progressive nation can exist. Given healthy vigorous units and we have strong nations; and the fittest survive in nations as in individuals. But there is an awakening the world over to the necessity of successful sanitary warfare against this insidious, ever-present foe that saps the foundation sills of the fabric. Given a consumptive people, and decay and death await the State. When the Society Islands were discovered in the sixteenth century, there were 200,000 stalwart natives who lived out of doors. In twenty years consumption and smallpox, and whisky introduced by the Europeans and English, had reduced the population to 20,000. See Dr. Senn's great book on “The Island of Tahiti,” now being published serially.

The problem involves reform in almost every feature of civilized life; in our dwellings, factories, travel, clothing, everything.

I anticipate great enthusiasm and the shaping of means to ends that must be ultimately successful to a large degree.

It is a little disgusting to know that there is a clique of disgruntled medical men in the East who have stooped to misrepresent and belittle the Congress, and, by so doing,—seemingly for personal reasons,—endeavored to disaffect certain European delegates and officers of the Congress already appointed and pledged. It is that same pharisaical "I am holier than thou" crowd who sought to defeat the Ninth International Medical Congress and prevent its meeting in America in 1886; the new code soreheads who couldn't rule, sought to ruin; the dog in the manger spirit. "Since I can not prove a lover (hero), I am determined to prove a villain," as the inhuman hunch-back Duke of Gloucester said. Well, let them play the villain all they like, it will not stop the Congress. It is an assured success.

I wish I had room for a complete list of officers, but I have not. I give below the names of the Texas officers and delegates.

FIRST VICE-PRESIDENT OF THE CONGRESS.

Dr. F. E. Daniel, President State Medical Association of Texas, Austin.

HONORARY VICE-PRESIDENTS OF THE CONGRESS.

Prof. John T. Moore, M. D., Vice-President State Medical Association of Texas, Galveston; Dr. Geo. R. Tabor, State Health Officer of Texas; Dr. T. J. Bennett, Buffalo, Texas; Dr. S. R. Burrough, Austin, Texas; Hon. Jos. D. Sayers, ex-Governor of Texas; Hon. Yancy Lewis, Austin, Texas.

DELEGATES.

Dr. M. M. Smith, Secretary State Board Medical Examiners; member of the Tuberculosis Congress Committee of Censors, Austin, Texas; Dr. H. K. Leake, Dallas; Dr. J. J. Robert, Hillsboro; Dr. J. E. Gilcreest, Gainesville; Prof. J. F. Y. Paine, M. D., Medical Department University of Texas, Galveston; Prof. J. W. McLaughlin, M. D., Medical Department University of Texas, Galveston; Dr. W. H. Allen, Marlin, Texas; Dr. E. S. Cox, Galveston, Texas; Dr. M. B. Grace, Eguin, Texas; Dr. James Lovett, Liberty, Texas; Dr. J. B. Jordan, Madisonville, Texas; Dr. Paul M. Raysor, Bryan, Texas; Dr. G. M. Abney, Franklin, Texas; Dr. E. E. Guinn, Rusk, Texas; Dr. P. L. Campbell, Dallas, Texas; Dr. J. H. Alexander, Meridian, Texas; Dr. J. F. Edwards, Denton, Texas; Dr. G. B. Foscue, Waco, Texas; Dr. H. W. Cummings, Hearne, Texas; Dr. B. M. Worsham, Superintendent State Insane Asylum, Austin; Dr. Marvin L. Graves, Superintendent State Insane Asylum, San Antonio; Dr. Jno. S. Turner, Superintendent State Insane Asylum, Terrell; Dr. John Preston, Superintendent Epileptic Colony, Abilene; Dr. C. H. Wilkison, San Antonio; Prof. Bacon Saunders, M. D., Dean Medical College, Fort Worth; Dr. Irvin Pope, Tyler; Dr. P. C. Coleman, Colorado City; Dr. Geo. H. Lee, Galveston; Dr. W. G. Jameson, Chief Surgeon I. & G. N. R. R., Palestine; Dr. A. C. Scott, Chief Surgeon G. & S. F. R. R., Temple; Dr. A. C. Smith, Chief Surgeon Cotton Belt Railroad, Tyler; Dr. R. W. Knox, Chief Surgeon S. P. System, Houston; Dr. S. C. Red, Chief Surgeon H. & T. C. R. R., Houston; Dr. W. A. Durringer, Chief Surgeon ———, Fort Worth; Dr. A. Garwood, New Braunfels; Dr. J. A. Rawlings, El Paso; Dr. D. R. Fly, Amarillo; Dr. W. E. Fowler, Prison Physician, Huntsville; Dr. Boyd Cornick, San Angelo; Dr. W. R. Blaylock, McGregor; Dr. B. F. Kingsley, San Antonio; Dr. C. E. Courtrell, Greenville, Texas.

MEXICO.

The following Governors of States of the Mexican Republic have accepted the appointment of Honorary Vice-Presidents of the American International Congress on Tuberculosis: Sr. D. Blas Escontria, Governor of the State of San Luis Potosi; Sr. D. Emilio Pimentel, Governor of the State of Oaxaca; Sr. D. Luis Terrazas, Governor of the State of Chihuahua; Sr. D. Aristeo Mercado, Governor of the State of Michoacan; Sr. D. Rafael Yzabal, Governor of the State of Sonora; Sr. D. Eduardo F. Pankhurst, Governor of the State of Zacatecas; Sr. D. Pedro L. Rodriguez, Governor of the State of Hidalgo; Sr. D. Miguel Cardenas, Governor of the State of Coahuila.

We shall reproduce the portraits of some of these gentlemen, and if our space permits, the letters sent by them, in the Notes on Tuberculosis in this issue.

SANITARIA FOR CONSUMPTIVES.

Hon. Andrew C. Smith, M. D., President of the Oregon State Board of Health and one of the Honorary Vice-Presidents of the American International Congress on Tuberculosis, is one of the most progressive and energetic health officials on the Pacific slope. He takes a very great interest in the work of the body and had written that he would attend the Congress.

He sent the following letter which did not reach the Management until after the Congress adjourned. He has been made one of the Vice-Presidents at large of the Congress, and we hope that he will before the first of January next make his contribution at length to one of the Symposiums of the Congress—either that on Sanitaria, of which the President, Dr. E. J. Barrick, is Chairman; that on Preventive Legislation, of which the Chairman of the Executive Board Mr. Clark Bell, is Chairman on Insanity in its Relation to Tuberculosis; on The Pathology and Bacteriology of Tuberculosis, to be sent to the Chairman of the Executive Board, or "Light and Electricity," of which Dr. J. Mount Bleyer is Chairman.

Oregon State Board of Health, 608 Marquam Building.

Portland, October 1, 1904.

Mr. Clark Bell, Chairman Committee on Organization, International Congress on Tuberculosis, Universal Exposition, St. Louis.

Dear Sir:—I regret very much to announce at the last minute, that it will be impossible for me to attend the Congress as heretofore agreed. Oregon is in active sympathy with the good work which you are promoting, as is evidenced by her recent establishment of a State Board of Health, with an appropriation of five thousand dollars per annum.

We recognize the fact that the most promising field of labor for sanitarians is that in which your Congress is taking such an active interest. We are about to establish an open air sanitarium for tuberculosis, and if I were to presume to offer a single suggestion to your learned body, it would be that it use every means available for promoting the establishment of these sanitaria in various places in every State and Province on the Continent.

Very faithfully yours,

ANDREW C. SMITH.



**HONORARY VICE PRESIDENTS OF THE AMERICAN CONGRESS
ON TUBERCULOSIS, AND PRESIDENT OF THE ST. LOUIS EXPOSITION.**

MAJOR GENERAL JOSE MIGUEL GOMEZ,
Honorary Vice President of the Congress,
Governor of Santa Clara, Cuba.

HON. DAVID R. FRANCIS,
President Universal Exposition,
St. Louis, 1904.

HON. GEO. A. DRUMMOND,
Honorary Vice President,
Senator from Ottawa, Canada.

PROF. F. N. WHITTIER,
Bowdoin College, Maine,
Vice President for Maine.

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PROF. DR. NIELS FINSEN.

Dr. Finsen, an Honorary Vice-President of the American International Congress on Tuberculosis, who contributed a paper to the Session of 1902, died at Copenhagen, September 24, 1902.

He was perhaps the most conspicuous scientist in the world in the treatment of Lupus and other affections of the skin by light, and was the discoverer of the so-called "Finsen Ray" so successfully used by its discoverer in "Lupus."

The Copenhagen journals announce that the death of Prof. Finsen occasioned profound regret, that the Kings of both Denmark and Greece attended his funeral in person, and that nearly every throne in Europe was represented at the obsequies.

Princes, high Ministers of State and leading scientists came to pay tribute to this great master. The Nobel prize was awarded to him in 1893. Queen Alexandria, of England, was an admirer of his work, who provided a complete set of his apparatus for one of the London Hospitals.

PRESIDENT FRANCIS AND THE CONGRESS.

President Hon. D. R. Francis, of the Universal Exposition, sent the following reply to the Management of the American International Congress on Tuberculosis, in response to their official invitation to speak at the opening and during one of the succeeding sessions:

September 27, 1904.

My Dear Sir:—I have the honor to acknowledge your letter of September 20th, inviting me to attend the opening ceremonies of the American International Congress of Tuberculosis, to be held in the Convention Hall on the morning of October 3rd. October 3rd will also be New York City Day, and I have accepted an invitation to participate in their ceremonies which will commence promptly at eleven o'clock, at the New York City building. I think it would be practicable for me to attend the opening of the Tuberculosis Congress at ten o'clock and shall endeavor to carry out that plan. The strenuous demand upon my time will make it impossible to accept the invitation of the Congress to occupy the chair at one of the succeeding sessions. I readily recognize the honor involved in this invitation, and decline it with reluctance, and with the request that you will convey to the Committee on Organization my sincere appreciation of their courtesy.

The Exposition Management trusts that the Congress will enjoy a large attendance and prove the most successful and profitable ever held.

Yours truly,

D. R. FRANCIS, President.

Dr. Clark Bell, 39 Broadway, New York City.

PREVENTIVE LEGISLATION IN FORENSIC MEDICINE.

BY CLARK BELL, ESQ., LL. D.,
Of the New York Bar.

There can be no question of the right of the Government of a State, acting through its Constitutional powers, by legislative enactment, to adopt and pass such laws, rules and regulations as will inure to the welfare of its citizens in averting the spread of an infectious disease.

In every American State this power of the State, by suitable legislation, to protect its inhabitants from an invasion of an epidemic which threatens the health or the lives of its people, rests on as solid a foundation as would the power of the State to resist invasion by a public enemy threatening, with an army of soldiers, the lives and the property of the people of a State.

The theory of government under which our American Constitutions were formed was; that Governments were founded, in a paternal sense, to protect the citizen in his rights, and to defend him when the danger became a public menace to life, limb or health.

This principle has been recognized in our American States and by our General Government to the fullest extent, by the adoption and enforcement of such sanitary legislation as the public authorities, under forms of law and by legislative authority, deemed necessary for the public health and welfare. The whole system of quarantine regulations, adopted by our General Government and by our States that border on our enormous sea coast, is based upon this principle—that the right of the individual citizen must yield when the peril involves the many.

Contributed to the State Medical Association of Texas, for the annual meeting of 1914 on the invitation of its committee.

Cholera, yellow fever and small-pox, illustrate in their historical relation to our people, in the past, how far the whole power of the Government has been called forth and exercised in the enforcement of measures, restrictions and regulations deemed essential for the welfare of communities, and in disregard of the private rights of individuals.

To justify, however, the exercise of such enormous power by legislatures as to make preventive legislation effectual and a public safe-guard, especially such as contained provisions so drastic and stringent, as has been found often times necessary in the strict enforcement of quarantine regulations, sometimes apparently oppressive, especially those which ignored the private rights of the citizen not only, but actually superseded and trampled upon those rights guaranteed by the organic law; certain prerequisites are necessary and fundamental.

Is the disease either contagious, infectious or communicable, and is this such a condition as places the general safety of the public in peril unless its spread is averted?

If a man or his wife develops small-pox beyond all question, cavil or doubt, the right of the State to enter the home, and ignoring the personal rights, take the father from the bosom of his family, or the wife from the arms of her husband, and confine and segregate them can not be doubted. It rests on the principle that the public welfare is higher and more sacred than the rights of the individual citizen when the former is in peril.

The Courts of our States sustain this extraordinary subversion and overthrow of the constitutional rights of the citizen, where the presence of the disease and danger to the public is so imminent that it has become a menace to the health of the whole people. We are prone sometimes to condemn what is often times an apparent private calamity, to an individual, or to isolated group of individuals, when the law compels us to close our eyes to the sufferings of a few, made indispensably necessary for the protection of the many by means of measures and legislation which we have styled "preventive" both as to legislation and to medical treatment.

If by prompt, instantaneous action, we fence out the cholera from a great city like New York, or the yellow fever

or small-pox from Galveston or New Orleans, we avert, untold misery to thousands who thus escape contagion, and avoid the appalling consequences which result inevitably if the precautionary measures and steps are not taken and strictly and even harshly enforced.

The human race at this moment has probably no more terrible an adversary to contend with, in the whole catalogue of diseases to which mankind is liable, than this dread, this terrible disease. It is a scourge. Its ravages are indescribable, incalculable, unmeasureable. Its victims are of our most beautiful women, our most gifted men.

Until quite recent years it has been pronounced by the whole medical faculty an incurable disease.

The medical man, ten years ago, who would have dared to announce that he could cure it, would have been denounced as a quack and kicked out of his profession by general consent. Mankind withstood its ravages in stolid despair. Its fatalities fell like the rain on the whole race, and whosoever felt it on his face prepared for death. It was pitiless, because remediless, and its victims are the countless millions, yes, myriads of myriads of the unmeasurable past.

In the problem now confronting civilization, the crucial question on which the whole fabric of preventive legislation must be built if it is to erected at all, is this:

Is consumption a communicable disease from one human being to another

Can any plan or means be devised by which its ravages can be averted, or even arrested?

How far is it within the control of legislative action by means of preventive legislation?

The first question which on its face might be supposed to be a medical question, on a more careful examination cannot be so regarded. It is not a purely medical question. Medical men as such would not be united on an answer to it; but they are more nearly unanimous than ever before.

It requires in its solution a higher scientific knowledge of the Pathology and Bacteriology of the disease than that possessed by the average medical man of our day.

But it steadily has sufficiently advanced since the researches and discoveries of Koch, and the discussions regarding the same, that there is now a belief in the mind of a large preponderance of medical men, based on the result of the researches of the ablest scientific students and observers of the subject, considered in its Pathological and Bacteriological aspect, that it is a communicable disease.

Dr. Henry B. Baker, so long Secretary and General Executive Manager of the State Board of Health of Michigan, before the first meeting of the American Congress on Tuberculosis in 1900, in reply to my question, "What has been in your opinion the most notable advance in that branch of Forensic Medicine, with which you are familiar during the 19th century?" replied as follows: "The most notable advance in Forensic Medicine in the 19th century, is the aid which the law gives to the restriction of that disease that causes most deaths." "One reason why this is true is that because that disease which causes most deaths is now known to be a preventable disease."

"In 1893 the Michigan State Board of Health passed a resolution, 'That hereafter consumption (and other diseases due to the bacillus Tuberculosis) shall be included in the official list of 'diseases dangerous to public health,' referred to in the law requiring notice by householders and physicians to the local health officer as soon as such disease is recognized. "

Judge Abram H. Dailey, ex-President of the Medico-Legal Society, and a conscientious student of medical jurisprudence, replied to the same question as follows:

"In my opinion that which has prevented the inception and spread of disease through sanitary laws based upon the causes of disease and removal of the same is the most notable."

The more advanced thinkers and observers among medical men are coming to regard consumption as a curable disease, if taken early in hand, despite the almost universal recent belief of the profession to the contrary.

A still larger class of medical men of higher attainments class it as a disease where preventive means are justifiable.

When the American Congress on Tuberculosis was organized in 1900, it was only the more advanced observers and thinkers, not the majority of the profession, who would have asserted that the disease was infectious and communicable. While the Bacillus Tuberculosis was definitely determined, recognized and acknowledged by the advanced students we could not then have said that this was the universal belief of medical men everywhere.

Again it would not quite answer to accept the beliefs and opinions of medical men as such as final, or even conclusive. Suppose they had, as the result of their readings and consultation among themselves, stated that they accepted it.

That would establish nothing. It was not based upon the original research of any of them. Few medical men as such have investigated the subject and studied the Tubercle bacillus with the microscope and the aids that science now lends to the study, and worked the problems out for themselves. Courts would not hold them to be competent witnesses as to the facts which the skilled observers had reached and recorded as scientific facts by competent observers by original research.

That the whole subject was a proper field of scientific and legislative inquiry, as to how far preventive measures could be utilized to arrest the spread of the disease and avert its awful ravages, would now be conceded by a majority of that same profession in any State in the American Union, who ten years ago or fifteen believed it to be incurable, and who had not made up their minds to accept the discovery which was first announced by Koch in 1883. Those who had accepted Koch's theories in the beginning, or many of them, had been all at sea by the announcements he made at the London Congress which was completely unprepared for his paper or to meet it in any satisfactory way at that time, and I am not prepared to say that the doubts he raised have been dissipated.

The question of the hour, the problem which confronts us at the American International Congress on Tuberculosis at St. Louis, at the Universal Exposition, in the fall is, How far can preventive legislation be of service in securing
its for mankind in diminishing the volume

of the disease in either averting or arresting its terrible advances.

The problem is one of profound and intense human interest. It is a question lying wholly within the domain of medical jurisprudence.

The Government of the United States in its splendid sympathetic and paternal action, sent to the officers of the Management of the St. Louis Congress of 1904 the language it employed in its instructions to the American Diplomatic Corps sent to Foreign Governments respecting the aims and purposes of this Congress best recognize this. It was as follows:

The humanitarian object which this Congress has in view to reach, by the discussion of scientific men, some result in arresting the spread and averting, so far as it may be found possible, the ravages of this dreadful disease which now falls with such terrible force and fatality upon the people of the Western Hemisphere, cannot but enlist the sympathy and approval of the Government to which you are accredited.

The Department will, therefore, be pleased to have you say to that Government that this Government is in entire sympathy with the work of the proposed Congress, and would be pleased to learn that the Government of took a like interest in its success by the acceptance of the Committee's invitation and the appointment of three or more scientific gentlemen to represent it at the Congress.

Texas will hold a high position in the labors and counsels of the St. Louis Congress.

It will be represented by the ablest names of the profession in the Lone Star State.

It already holds four places on the Committee of Organization named by the World's Fair Exposition.

It has for its First Vice-President the editor of the Texas Medical Journal, and in a prominent position the editor of the Texas Medical Journal, Dr. M. M. Smith, and Dr. T. J. Bennett, of large sanitary experience, and the State Health Officer, Dr. Geo. T. Tabor; she will do her part well at St. Louis.

It is a question higher than that of medical schools or medical politics or difference of opinion as to theories or schools.

It needs in its solution the ablest minds of your State, not only in law and in medicine, but in all the professions, for

such a solution as shall be worthy of the aims so admirably presented by the State Department of the American Government, which I have quoted.

I have yielded to the request of your committee to say a few words to you which I submit in the hope that they may encourage medical men of Texas to aid us in our humane endeavor for a common good to the race, in the struggle now going forward with this dread disease by the scientific world and in which the medical men of your State feel so deep and profound an interest.

American International Congress on Tuberculosis,

IN JOINT SESSION WITH THE

Medico-Legal Society of New York,

—AT—

CONVENTION HALL,

—AT—

The Universal Exposition,

ST. LOUIS, MO.,

Monday, Tuesday and Wednesday,

October 3, 4 and 5, 1904,

AT 10 O'CLOCK A. M. AND 2:15 P. M.

FIFTH ANNUAL SESSION, 1900---1904.

Preliminary Program.

UNIVERSAL EXPOSITION, ST. LOUIS, 1904.

David R. Francis, President Universal Exposition.

Wm. H. Thompson, Treasurer.

Walter B. Stevens, Secretary.

Frederick W. Lehman, Chairman Committee Board of Directors.

Howard J. Rogers, Director of Congresses.



HON. LUCILIUS A. EMERY, OF MAINE,
Honorary President American International Congress on Tuberculosis.



EX-JUDGE ABRAM H. DAILEY.
Ex-President Medico-Legal Society.

**HONORARY PRESIDENTS OF THE AMERICAN CONGRESS ON
TUBERCULOSIS AT THE ST. LOUIS EXPOSITION OF 1904.**

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AMERICAN INTERNATIONAL CONGRESS ON TUBERCULOSIS.

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Lay:—

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 Hon. Gen. Russell A. Alger, Ex-Secretary of War and Senator from Michigan, Detroit.
 Hon. Ex-Judge A. H. Dalley, Ex-President Medico-Legal Society, Brooklyn, N. Y.
 Hon. Judge C. G. Garrison, Supreme Court, New Jersey, Camden, N. J.
 Hon. Stephen B. Elkins, United States Senator, Washington, D. C.

Medical:—

Dr. A. N. Bell, Editor The Sanitarian, Brooklyn, N. Y., Ex-President American Congress on Tuberculosis.
 Prof. Charles H. Hughes, Editor Alienist and Neurologist, St. Louis, Mo.
 General Presley M. Rixie, Surgeon-General United States Navy, Washington, D. C.
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 Moritz Ellinger, New York City.



HON. LUCILIUS A. EMERY, OF MAINE,
Honorary President American International Congress on Tuberculosis.



EX-JUDGE ABRAM H. DAILEY.
Ex-President Medico-Legal Society.

**HONORARY PRESIDENTS OF THE AMERICAN CONGRESS ON
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AMERICAN INTERNATIONAL CONGRESS ON TUBERCULOSIS.

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 Hon. Ex-Judge A. H. Dailey, Ex-President Medico-Legal Society, Brooklyn, N. Y.
 Hon. Judge C. G. Garrison, Supreme Court, New Jersey, Camden, N. J.
 Hon. Stephen B. Elkins, United States Senator, Washington, D. C.

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 Prof. Charles H. Hughes, Editor Alienist and Neurologist, St. Louis, Mo.
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By reason of the contributions made and forwarded by eminent men from Europe, in 1902, the following were re-elected Honorary Vice Presidents of the Congress at the annual meeting of 1903:

Denmark—Prof. Dr. Niles R. Finsen, of Copenhagen.
Silesia—Prof. Dr. Herman Kornfeldt, of Gleiwitz.

Dr. Wm. Livet, of Paris, France, was elected Vice President from France; he having enrolled as a member of the Congress and contributed a valuable paper.

From Cuba.

Dr. Jacquin L. Jacobson, President Cuban League against Tuberculosis for Cuba, Havana, Cuba.

The Governor, the Hon. Manel Yere Sagol, of the Province of Santiago, Cuba, Honorary Vice President from that Province.

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- Washington, D. C.*—Surgeon Preston H. Bailhache, U. S. M. H., delegate from the U. S. Government; Surgeon W. C. Braisted, U. S. Navy, delegate from the U. S. Government; Captain Henry D. Snyder, M. D., U. S. Army delegate from the U. S. Government to the Congress, Washington, D. C.
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PROGRAM.

MONDAY, OCTOBER 3, 1904, 10 A. M.

OPENING SESSION.

In the Chair:

For the American Congress of Tuberculosis,

E. J. Barrick, M. D., President, of Toronto, Ont.

Supported by Prof. Chas. H. Hughes, M. D., Honorary President of the Congress at St. Louis, and Hon. F. L. C. Garvin, Governor of the State of Rhode Island.

For the Medico-Legal Society,

Clark Bell, Esq., President, of New York.

Supported by A. P. Grinnell, M. D., of Burlington, Vt.; Hon. Senor David Matta, Delegate from the Peruvian Government; Dr. F. E. Daniel, M. D., President State Medical Association of Texas, Austin.

In Joint Session.

ORDER OF OPENING CEREMONIES.

Addresses on opening of Congress.

1. Address of Welcome,

By Hon. D. R. Francis, President of the Exposition.

2. Address of Welcome to St. Louis,

By Hon. Rolla, Mayor of the City of St. Louis.

3. Address of Welcome,

By A. N. Bell, M. D., Honorary President American Congress of Tuberculosis, of Brooklyn.

4. Address of Welcome,

By Clark Bell, Esq., LL. D., President Medico-Legal Society, of New York City.

Address by Gov. Garvin, of Rhode Island.

5. Presidential Address, of E. J. Barrick, M. D., President of American Congress of Tuberculosis.

6. Short Addresses.

By Members, Delegates and Officials from Countries and Provinces and invited guests.

7. Appointment of a Committee on Nomination of Officers for ensuing year.

8. Appointment of a Committee on Standing Resolutions.

Introduction of Resolutions to be referred without debate to Committee on Resolutions.

9. Announcement from the Board of Executive Officers and of Standing Committees.

10. Delegates and members should hand in their certificates to Secretary on or before the afternoon session.

11. Delegates and members will please sign roll and give their home and St. Louis address to the Secretary.

12. Members and delegates who desire to take part in the discussion of papers will please leave their names and addresses with the Secretary.

MONDAY, OCTOBER 3, 1904, 2:15 P. M.

FIRST DAY—AFTERNOON SESSION.

In the Chair—In Joint Session.

For the American Congress on Tuberculosis,

Dr. E. J. Barrick, Toronto, President.

Supported by Dr. Thomas G. Palermo, Government Delegate from Salvador; Hon. W. W. Goodrich, late of the Appellate Division, Supreme Court; Dr. Kitchen, Delegate named by the Government of Ontario, Canada.

For the Medico-Legal Society,

Clary Bell, Esq., LL. D., President Medico-Legal Society of N. Y.

Supported by Dr. F. M. Pottinger, of Los Angeles, Cal.; Dr. D. E. Le Cavalier, of Montreal, Canada; Dr. Mary D. Ardery, President State Society of Iowa Medical Women, Des Moines.

1. Announcements from the Board of Executive Officers.
2. The Roll Call of Foreign Governments, States or Countries, with introduction and responses by the delegates or representative of or from each. Limited to five or eight minutes of time.
3. Call of the States and Territories of the American Union, with introductions of Governors, officials, representatives and brief responses. Limited to five or eight minutes.
4. Call of Roll of Foreign Societies, Associations, or Foreign visitors, with introduction of representatives or delegates, and brief responses by each.
5. Roll Call of Home or Domestic bodies or organizations in sympathy with our work.
6. Members are requested to leave their residence and St. Louis address with the Secretary as early as possible.

TUESDAY, OCTOBER 4TH, 1904.

SECOND DAY—MORNING SESSION.

In the Chair.

For the American Congress on Tuberculosis,

President Dr. E. J. Barrick.

Supported by Hon. David R. Francis, President Universal Exposition; and Dr. F. E. Daniel, of Texas.

For the Medico-Legal Society,

President, Clark Bell, Esq., LL. D.

Supported by Chief Surgeon W. B. Outten, M. D., of St. Louis; Dr. John H. Simon, Health Commissioner, St. Louis, Mo.; Dr. McAlester, President Missouri State Board of Health.

1. If the order for previous days has not been finished, it will be first taken up and considered.
2. The Session will be devoted to the consideration of the First Symposium on Tuberculosis and Preventive Legislation.
It is under charge of the Standing Committee on Preventive Legislation, of which Clark Bell, Esq., LL. D., is chairman.

At the instance of the Officers of the Congress, the Committee have presented, in advance, a report through its Chairman, Clark Bell, Esq., LL. D., which has been sent members and delegates, defining and stating the questions which, in the opinion of the Committee, should be submitted for discussion, as follows:

Preventive Legislation Against Tuberculosis:—

1. Conceding that Tuberculosis is a communicable disease from one human being to another, without which no legislation could be sustained by the courts, the real burning issues that confront the Congress, may be thus briefly stated:

a. How far can legislation be devised, that can arrest, avert or even diminish, the terrible mortality of consumption, under which the human race now suffers.

b. How can this coming Congress devise means, that will educate the public mind, to a recognition of the imperative necessity of legislative action, and define its scope and field; and

I. To favor the passage of such legislation as is deemed likely to best accomplish the desired result, and

II. How can public opinion be best aroused, formed and enlightened, so that the public will favor the enforcement of such legislation when adopted.

The discussion will be opened by Clark Bell, Esq., LL. D., Chairman, who will make an address

The subject will be thrown open for discussion, orally and in papers the whole to form a symposium.

The discussion, if not concluded at the session, may be sent to the Standing Committee, in charge of its chairman.

The advisability of receiving papers up to January 1st, 1905, and later, if the Executive Board so orders, to form a part of the Transactions, will be considered.

III. The introduction of resolutions.

OCTOBER 4TH, 1904, 2:15 P. M.

SECOND DAY—AFTERNOON SESSION.

In the Chair.

For the American Congress on Tuberculosis,

The President, Dr. E. J. Berrick.

Supported by Dr. W. F. Morrow, Secretary of the State Board of Health of Missouri; Dr. W. B. Fletcher, Supt., of Indianapolis, Ind.; Dr. M. M. Smith, of Austin, Tex.

For the Medico-Legal Society,

The President, Clark Bell, Esq., LL. D.

Supported by the delegates named by the Government of the Dominion of Canada and other foreign Governments, to be selected by the Chairman.

The session will be devoted to the consideration of the Second Symposium, *The Relation of Insanity to Tuberculosis*.

It will be opened by Dr. R. D. Smith.

The following letter has been sent to a large number of those who were believed to be interested in the question, and their contributions and the discussion will be compiled as a general symposium upon this subject.

Dear Colleague:

The Board of Executive Officers have decided to invite you to be present and take part in a discussion of the subject of "The Relation of Insanity to Tuberculosis," at the approaching Congress, at the St. Louis Exposition, on October 3, 4 and 5, proximo.

We hope that you will contribute a paper and forward it as early as possible or allow your name to be announced as willing to take part in the discussion of that subject. If you are unable to be present personally, your contribution will be read for you, at the Session or before a

Section, or a Standing Committee,—the whole to constitute a Symposium. Please favor the officers with an early response and forward your views in advance, also to aid the Committee having in charge the formation of the program of the Congress. Contributions to the Congress may be written in any language and sent in advance of the session.

Respectfully submitted,

E. J. BARRICK, President.

CLARK BELL,

Chairman Executive Board and
Committee on Organization

If the contributions and discussion cannot be conducted at the Session, for want of time, the advisability of continuing it before a Section will be considered, and of extending the time for contributions to January 1st, 1903, or later, in the discretion of the Executive Board.

II. The Pathology and Bacteriology of Tuberculosis.

This department will be opened by Professor Otto von Shroen, of the Royal University of Naples, who will read a paper in the Italian language entitled, *Sul Nuovo Microbo, della Tisi sulla differenza essenziale Tra Tuberculosi e Tisi Polmonale*; also one in the German language, entitled, *Ueber den Phthisogenen Microben, und den Unterschied zwischen Tuberculose und Phthise der Lunge*.

III. The remainder of the Session will be devoted to the consideration of "The Pathology and Bacteriology of Tuberculosis."

WEDNESDAY, OCTOBER 5, 1904.

THIRD DAY—MORNING SESSION.

In the Chair:

For the American International Congress on Tuberculosis,
The President, Dr. E. J. Barrick, of Ontario.

Supported by Dr. Wm. Porter, of St. Louis; Dr. C. C. Jones, of Georgia and Dr. J. Wood Fassett, of Illinois.

For the Medico-Legal Society of New York,
The President, Clark Bell, Esq., LL. D., of New York.

The session will be devoted to the subject of Sanatoria, under the charge of the President, Dr. E. J. Barrick, of Toronto, chairman of the Standing Committee on Sanatoria.

Dr. Barrick will open the discussion and make an address, and at the close of the discussion will submit

1. The report of the Standing Committee.
2. He will submit the following Resolutions for the consideration of the Congress:

Whereas, Tuberculosis is directly or indirectly responsible for one-fifth to one-eighth of all the deaths the world over, and for nearly one-half of those occurring between the ages of twenty and thirty years; and

Whereas, It is an established fact that Sanatorium Treatment is an important factor in curing and in preventing the spread of the disease; and

Whereas, It is possible for each municipality to establish and maintain a Municipal Sanatorium for its own people, by bringing about the co-operation of Federal, State, Provincial, Municipal and Individual Aid; be it therefore, and it is hereby

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HONORARY VICE PRESIDENTS AMERICAN CONGRESS ON TUBERCULOSIS.

HON. JAMES H. PEABODY,
Governor of Colorado.

HON. ROBERT M. LAFOLLETTE,
Madison, Wisconsin.

HON. JOSEPH K. TOOLE,
Governor of Montana.

HON. SENOR EMILLIO NUNEZ
Governor of Havana, Cuba.

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Resolved, That in the opinion of this International Congress on Tuberculosis all the members thereof should use their influence in their respective localities to bring about this co-operation, which if carried on in conjunction with the Local Boards of Health would bring the benefits of a Sanatorium within the reach of consumptives in every municipality.

The discussion will be open to every member of the Congress, and will be oral and by the presentation of papers, which will as a whole form a symposium on the subject.

Papers contributed or to be subsequently contributed to this discussion will be referred to the Committee on Censorship of papers and of publication, and be entitled to go into the Bulletin of the Congress.

Contributions may be submitted after the adjournment of the Congress.

3. Resolutions to be referred to the Committee on Resolutions.

4. There is so large a number of contribution, and the same not yet classified, or as yet passed the Censorship Committee.

The following are among those who will be in charge of the Censorship Committee, and will be subject to the action of the Board of the Congress.

The following partial list is now submitted and the same will be corrected, classified and made complete at the session.

Dr. Denslow Lewis, Chicago, Ill.—"The Value of Publicity."

Dr. Mihran K. Kassabian, Philadelphia, Pa.—"The Roentgen Ray in Tuberculosis."

Dr. N. E. Aronstam, Detroit, Mich.—"A Contribution to the Study of Tuberculodermata."

Dr. J. C. Ross, Colorado Springs, Col.—"Can the Germ Theory of Tuberculosis be Sustained."

Dr. D. E. Le Cavalier, Editor Montreal Medical, Montreal.—"La Tuberculose devant la loi."

Prof. Dr. Moritz Benedikt, Vienna, Austria, Honorary Member Medico-Legal Society of New York.—1. "The Relation of Insanity to Tuberculosis. 2. On some points of Protection of Tuberculosis and Phthisis Communication."

Dr. Thomas Bassett Keyes, Chicago, Ill.—"Climate of the Southwest." "Evidence as to the Value of Subcutaneous Feeding with Oil to an Absolute Cure for Consumption."

Dr. M. M. Smith, Austin, Texas.—"The Sanitarium Treatment of Tuberculosis."

Dr. J. E. Gilcreest, Gainesville, Texas.—"Tuberculosis of the Uterus and adnexa."

Dr. J. H. Kellogg, Battle Creek, Mich.—"Methods of Combating Tuberculosis in the Individual."

Dr. C. R. Arnold, Colorado Springs, Colorado.—"The Treatment of Tuberculosis at High Altitudes."

Dr. Helen Reynold Kellogg, 1207 Stewart Building, Chicago, Ill.—"The Treatment of Tuberculosis by Injection of Olive Oil and Out of Door Life."

Prof. Dr. A. Marmoral, 7 Rue Monore de Chevalier, Paris, France.—"Le Traitement de la Tuberculosis par le Serum Antituberculeux."

Dr. R. Bruce Smith, Brockville, Ontario, Canada.—"On the Relation of Tuberculosis to Insanity."

Dr. Earl D. McGill, Wray, Colorado.—"Colorado and Tuberculosis."

Dr. J. Elvin Courtney, 524 14th Street, Denver, Colorado.—"The Neurosthenia of Pulmonary Tuberculosis."

ADDRESS OF WELCOME.

At the Opening Session of the American International Congress
On Tuberculosis.

BY A. N. BELL, A. M., M. D.,
Honorary President

STAMINA.

Analysis of vital statistics for the last three-quarters of a century, shows an average increase in the duration of human life among civilized peoples from 42.2 years to 48.5 years. The chief increase has been during the latter half of that period, and for the most part, by the reduced mortality from zymotic diseases, but above all, from pulmonary tuberculosis, from which the reduction of mortality has been nearly fifty per cent.

Inquiry with regard to the means by which this reduction has been effected shows it to have been almost wholly by sanitary efforts; by dealing with and destroying unsanitary surroundings, soil-drainage, purifying water supplies, reporting and restricting communicable diseases, sanitary supervision of schools, the destruction of sputum—the now everywhere recognized fountain-head from which the army of bacilli is perpetually reinforced—abolishment of cellar dwellings, diminished overcrowding, cleanliness, disinfection, isolation and aeration; improved tenements, opened-up and wider streets, public parks and recreation grounds, and establishment of sanatoria.

This catalogue of sanitary efforts might be still further extended, though altogether without any record of special effort for improved nutrition, except for nursing infants.



DR. A. N. BELL, BROOKLYN, N. Y.,
Ex-President and Honorary President American International Congress on
Tuberculosis, Editor Sanitarian.

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Communicable as all competent observers know tuberculosis to be, while they equally well know that it is not so under all circumstances; it is, indeed, questionable, whether any one of sound constitution and well nourished has ever contracted the disease from nursing consumptives, or from living with them otherwise under good, hygienic surroundings.

On the contrary, no matter how healthful the surroundings or the salubrity of the atmosphere, for poorly nourished and feeble persons, from whatever cause, there is no immunity from tuberculosis. For no one who even approximately comprehends the universality of microbic life—and of none more than tubercle bacilli—can fail to perceive that, however much we may be able to modify the external relations bearing upon liability to tuberculosis, nevertheless every individual, no matter where his dwelling place, is more or less subject to tubercle bacilli; for, besides the utmost restrictions of their prevalence by sanitary effort, unless the individual is possessed of an organism sufficiently fortified to resist and overcome conflict with them—for the conflict is certain everywhere—he is liable to contract tuberculosis.

Hence it is that about one-quarter of all the deaths recorded of mankind during adult life, is caused by tuberculosis, and nearly one-half of the entire population, at some time in life, acquires the disease.

Tubercle bacilli are, indeed, abroad everywhere, a constant menace and challenge to one's power of resistance.

Every intelligent person knows that the power of resisting the ordinary exciting causes of illness, such as sudden changes of temperature, exposure to damp soil, room or sheets, or night air with the windows closed, depends upon one's state of health. The power of resisting tubercle bacilli is no exception.

Health fortified by such conditions as the organism depends upon for its fabrication and maintenance opposes itself to all exciting causes of disease by the relative integrity, strength and vigor of all the organs and functions of the body. A person thus equipped, if beset by tubercle bacilli or other microbes, effectually resists them, devours them by oxidation and casts them off.

Feebleness, on the contrary, though not always appreciated and sometimes cultivated, indeed, by the practice of that altogether too popular fad, abstemiousness, is always and everywhere a prevailing "predisposition" to disease; and, associated as it commonly is with inadequate nourishment, it is the most frequent of all incitants to tuberculosis. Abstemiousness, however, is variable in its practice, and uncertain; one may over-eat and yet abstain from some essential food necessary for the maintenance of health. Adequate nourishment and stamina depend upon the supply of nutriment in the kinds and proportions required by our bodies.

Food is required for a two-fold purpose, (1) to supply material for the construction and repair of tissue, and (2) to supply fuel for its maintenance—the production of heat and energy.

It is not necessary to our present purpose to consider the origin and nature of food in its general sense, but to emphasize the importance of the essential elements of food comprehended in the various organic and unorganic compounds of which food consists, as follows: Carbon, hydrogen, oxygen, nitrogen, sulphur, phosphorus, chlorine, iodine, potassium, calcium, magnesium, sodium and iron.

It is not by any means necessary that a food should yield all these elements, indeed, there is but one such food—milk—that is complete in this respect, and perfect, upon which the young of all mammalian animals are, or should be, for a time exclusively nourished. Neither is it essential next following the period of nursing, that every food should be broken up, or "refined," to facilitate its assimilation and combinations in the structures of the body, since the functions of the organism are adapted to these processes.

Unfortunately for the infant, however, it frequently happens that after weaning, and if it has been nursed by a healthy mother, or other wet nurse, being well fed on two or three pints of wholesome milk, daily, its food supply is reduced by substitution of one kind or another, more or less devoid of essential elements, with the common result of emaciation and tenderness, and increased liability to sickness.

Moreover, as said by Dr. William H. Maxwell, Superintendent of Public Schools of New York City, and President of the National Educational Association, in his address at the International Congress of Arts and Sciences, September 23, 1904.

"Education, whether physical or mental, is seriously retarded, if not practically impossible, when the body is improperly or imperfectly nourished. The child of poverty, with body emaciated, blood thin and nerves on edge, because he has not enough to eat, grows up stunted in body and in mind.

"What a farce it is to talk of schools providing equal opportunities for all when there are hundreds of thousands of children in our city schools who cannot learn because they are always hungry!

"The schools of Paris provide a simple, wholesome midday meal for their hungry children. In many places in the British Islands the same thing is being done. Should we do less in the cities of democratic America? In no other way can we be sure that the schools will, as far as education may, provide equal opportunities for all."

With regard to certain infectious diseases to which children are especially liable, in part, doubtless, because of their greater functional activity, but chiefly because their power of resistance has not become sufficiently fortified—for it is well known that adults generally who have not encountered those diseases in childhood rarely contract them subsequently—the same relative immunity exists; the strong and vigorous child is much less likely to contract them than the feeble; and the convalescent, those who are particularly feeble from any one of such diseases, are well known to be the most of all liable to attack and to succumb from another.

And of pulmonary consumption, the most prevalent and the most fatal of all diseases, who does not know that enfeeblement invites it? That individuals are less liable to it—whether traceable to hereditary taint or otherwise—in proportion as coddling has been avoided, appetite for wholesome fat food cultivated, cold bathing habitual, protective but loose clothing worn, and exercise in the open air unrestrained? By the maintenance of these conditions all the processes of healthy organization are promoted and the constitution fortified against tubercle bacilli, as, in like manner, against other disease germs, no matter whence the quarter or at whatever age of the individual exposed; and no less against diseases not attributable to germs. And the more, if we accept Metchnikoff's theory of the office of the leucocytes, or white blood corpuscles, for

these in both number and strength depend upon proper nourishment. "In health," says Kirke, "the proportion of white or red corpuscles, which, taking an average, is about 1 to 500 or 600, varies considerably, even in the course of the same day. The variations appear to depend chiefly on the amount and probably also on the kind of food taken, the number of leucocytes being very considerably increased by a meal, and diminished again on fasting. Also in young persons, during pregnancy, and after great loss of blood, there is a large proportion of colorless blood corpuscles, which probably shows that they are more rapidly formed under these circumstances. In old age, on the other hand, their proportion is diminished."*

No good observer will fail to recognize the coincidence of the condition which diminishes the proportion of leucocytes and the increased liability to disease—that of fasting; or note the no less remarkable coincidence, the diminution in the number of leucocytes and increased infirmity of old age.

Foods are ordinarily divided into four classes:

1. Nitrogenous or albuminous substances.
2. Fats or hydro-carbons.
3. Carbo-hydrates, chiefly starchy substances and sugar.
4. Mineral substances—water and salts.

The average daily amount of food required and of the different kinds, as comprehended in this classification, severally, varies considerably with individual conditions of age, size, exercise, circulation, activity of the eliminating organs, etc. The range in different male adults is from 34 to 46 ounces of so-called solid food, and from 70 to 90 ounces of water in some form—taken with and without solid food. For adult females, the average is from 3 to 5 ounces less. For children and youths, proportionally, more in the inverse ratio to age, 0.8 to 0.6 ounces for each pound weight of the body.

If individuals are undergoing great exertion they require more food, and if they can obtain it, the needful increase is especially in the nitrogenous and fat foods.

"Every structure in the body in which any form of energy is manifested (heat, mechanical motion, chemical or

*Kirke's "Hand-Book of Physiology," Vol. I, p. 79..

electric action, etc.) is nitrogenous. The nerves, the muscles, the gland cells, the floating cells in the various liquids, the semen, and the ovarian cells are all nitrogenous. Even the noncellular liquids passing out into the alimentary canal at various points, which have so great an action in preparing the food in different ways, are not only nitrogenous, but the constancy of this implies the necessity of the nitrogen in order that these actions shall be performed; and the same constancy of the presence of nitrogen, where function is performed, is apparently traceable through the whole world. Surely such constancy proves necessity." (Parkes.)

The average daily quantity of fat required by an adult to keep up healthy nutrition, according to various estimates, is two ounces, and proportionally more during the period of growth after weaning, from half an ounce to two ounces.

"1. A supply of fat, *per se*, to the blood is essential for histogenesis and for the protection of the tissues, and is also of importance for general use as a source of heat and mechanical force.

"2. The carbo-hydrates and albumenoids may supply heat and mechanical force, but they cannot take the place of fat in histogenesis and protecting of tissue.

"3. Fats may be supplied by absorption into the portal system, by absorption into the general lymphatic system, and by absorption into the lacteal system. But the latter is the means by which the principal supply of solid fat is carried into the blood, and is the most important.

"4. The mean consumption of oxygen by an adult man of average stature (weight 150 pounds) taking ordinary exercise, is about 30 ounces in the twenty-four hours, and the heat evolved by each 1 ounce of oxygen in combining with carbon, hydrogen, etc., is about 350 British units. Hence, 10,000 British units of heat will be evolved every twenty-four hours by the combination of 30 ounces of oxygen with carbon, hydrogen, etc.; therefore, the food of an ordinary adult man under ordinary circumstances, should be such as may, in addition to other purposes, evolve at least 10,000 British units of heat.

"5. Practical experience in the dieting of large numbers of men, and other means, have enabled us to establish the fact, that such an average man as I have spoken of, requires for the maintenance of health, a diet which shall

contain about 4 ounces of plastic material, 3 ounces of fat and 10 ounces of carbo-hydrates; and, on careful analysis of this diet, we find that it can supply the required 10,000 British units of heat, viz.: 2,516 from the plastic, 3,357 from the fat and 4,150 from the carbo-hydrates, total, 10,023."

Fat, as an article of diet, furnishes the potential force necessary for the conversion of other food material into organic tissue and to maintain the bodily functions.

Professor W. O. Atwater, in one of his most important contributions to the Department of Agriculture,* on the nutritive value of foods, in comparing nutrients in respect to their fuel values, their capacities for yielding heat and mechanical power, states that "a pound of protein lean meat or albumen of egg is just about equivalent to a pound of sugar or starch, and a little over two pounds of either would be required to equal one pound of the fat of meat or butter."

The mistake commonly made with reference to the use of fat food is, that it is only, or especially applicable to cold climates—an erroneous inference, the same as that, that cold is preventive of tuberculosis. That fat is the almost exclusive food in Arctic regions is because other food is not obtainable, not because of the frigid climate. It is necessary food, though not in such excess, at all times and everywhere, to supply the potential energy required by the organism to construct the tissues and maintain the body, the temperature of the body being about the same in all climates. Fat does not stand alone in this regard, however, except under such extraordinary circumstances as those referred to. Carbo-hydrates of various kinds contribute to the same functions as fat, under ordinary conditions, but they do not suffice to maintain the stamina of the organism to the highest degree anywhere without the assistance of or being supplemented by some kind of fat.

A correct appreciation of the benefit of fat food in the Arctic regions serves as an index to its advantages under other conditions.

It is not limited to blubber, "toodnoo" or oil, even among the Laplanders. It includes the solid portions of reindeer,

*Loss of Weight, Blood-spitting and Lung Diseases, Horace Dobell, M. D., Farmers Bulletin, No. 23, 1894.

seal and other meat. And this in its composition doubtless compares favorably with the choicest cuts of beef and mutton, which consist of 20 to 30 per cent. of fat; or possibly with good bacon or ham, 35 to 50 per cent. Good butter, it need hardly be said, is almost wholly fat—85 to 90 per cent.

Of approximate stamina and exemption from tuberculosis, it is not far fetched to refer to the history of most of the North American Indians, before the cultivation of cereals was introduced by the white settlers. Their food was almost exclusively the fat game which they hunted and killed in such a manner as to retain the blood. Of the wonderful physical strength and endurance of those savages, the history of them furnishes many examples. And the earliest records of consumption among them are contemporary with the attempted methods of civilizing them—inducing them to leave their tents and live in houses; restricting their game supply and supplying them with an excess of farinaceous food. They have ceased to be a hardy race and tuberculosis is common among them. The Gauchos of the South American Pampas who live almost exclusively upon fat animal food, are alike remarkable for their extraordinary stamina. The flesh eating Mahometans of India are described by historians as being the most powerful, active-minded and hardy race of human beings in the world, presenting the widest possible contrast in physical development to the rice-eating and feeble Hindoos, of whom but few reach the age of forty years.

A striking example of what appears to be the result of a change from an almost exclusive fat meat diet to one largely farinaceous, in relation with tuberculosis is afforded by the history of the New Zealanders, who, until about 50 years ago, were cannibals, eating their captives in war, but who, besides, consumed an enormous amount of fat pork. Dogs also composed a part of their dietary, and fish to some extent. They were remarkable for their physical development and exemption from tubercular diseases, but soon after the introduction of the potato as a staple food, at about the time mentioned, scrofula and other forms of tuberculosis began to prevail among them, and have attained a degree of prevalence even greater than among the

poorest people in Ireland, where the staple food is of the same kind, but beneficially supplemented to a considerable extent by the use of butter-milk.

Moreover, I have observed among people in the tropics, as well as in temperate latitudes, that there is a marked difference in the health of persons, whose chief food is farinaceous, between those who but rarely eat anything else and are particularly feeble, lymphatic and scrofulous; and those who eat butter, or oil with their rice and similar food, or supplement it with sardines in oil, oil-dressed salads, etc.

Recurring to what I have remarked on the superiority of meat that retains the blood as well as the fat, every epicure knows, and every physician ought to know, that the meat of animals of every kind so killed as to retain the blood is more delicious than that of animals otherwise killed, is also more digestible and more nutritious.

All fresh meat is more or less acid, and that from which the blood has been drained requires to be kept until alkalinity is induced by incipient decomposition before it becomes tender and digestible. On the contrary, that which retains the blood only requires thorough cooling before it is ready for cooking and is tender and digestible from the outset, because the alkalinity of the blood speedily acts upon and neutralizes the acid. Hence, the meat of the buffalo, as it used to be killed and prepared by the North American Indians; the jerked beef of the Cauchos; the beef of cattle that have been knocked in the head, or perferably, by dividing the spinal marrow in the neck as now practiced in the abattoirs of Chicago, (if it is not afterward drained of its blood), is greatly superior to that which is prepared after the method of the Jews. Besides, the draining or soaking away of the blood from meat impairs its nutritive value. The blood is essentially of the same composition as the flesh, but besides, it holds in solution phosphates of soda, salts of potash, iron and sulphates; all nutritives of vital importance to the human economy. But there is no method of slaughtering animals that entirely divests the flesh of blood, hence to attempt to prohibit eating it, to be effective, should prohibit the eating of meat altogether.

Relative exemption from tuberculosis, under all circumstances, is, according to my observation, due to the generous use and potentiality of fat food.

My conclusion in this regard is fortified by many years observation and study of the liability to consumption of peoples collectively, families and individuals, more or less proportional to their abstinence from fat foods. The most prominent example of whom I have never lost sight of from youth up—the negro race in America.

I began my professional life among them when they were slaves and were always supplied with an abundance of “hog and hominy,” not by any means restricted to these articles, but pork or bacon was a standing portion of at least one daily meal. Consumption among them was relatively rare.

My observation in this respect was not sigular, but accords with all other medical observers of the time of whom I have knowledge. Conversely, it seems hardly necessary to invite attention to the prevalence of consumption among the same people now, under their changed conditions with regard to diet. “Hog” at least, is notable by its absence from the daily fare of most of them and no other fat meat has taken its place; and consumption among them is more than twice as great as it was formerly.

The same observation extends to smaller communities, families and individuals. Consumption is most prevalent among those who are stinted or who stint themselves of “bacon and butter.”

I mention these as ideal and because they are among the most digestible of fat foods; other fat foods are commendable.

Everybody has learned, when it is unfortunately, in most cases, too late, that cod-liver oil is good for consumptives; but few seem to have learned that food of the same character as cod-liver oil, suitable for the table, is preventive of consumption.

In the whole course of my professional observation, now covering a period of more than sixty years, I have never known a family or an individual that was brought up on a liberal supply of butter and bacon who became tuberculous. Moreover, such food fortifies the system against other diseases as well as consumption; it establishes stamina

PRESIDENTIAL ADDRESS.

BY E. J. BARRICK, M. D.,
M. R. C. S., England, L. R. C. P. and S. London and Edinburg.
President of the Congress.

No one could but appreciate to the fullest extent the great honor of occupying the distinguished position of President of this International Congress on Tuberculosis. For this honor I am grateful to the noble band of men whose hearts have burned with love and sympathy for those who are or may become unfortunate victims of the Great White Plague. To these men, not to me, is due the honor of bringing about this great Congress. To one man more than all others is due the honor, and to him this Western World owes a debt of gratitude which can never be adequately realized and never repaid. Nothing short of the strongest love and sympathy for suffering humanity could have impelled Mr. Clark Bell to so unreservedly consecrate his great talents, his time and his indomitable energy to bring about this splendid result. No man with less ability, energy, tact and perseverance could have accomplished what he has in working out something practical towards stemming the tide of the spread of this the greatest enemy of the human race.

The object eminently uppermost in this movement has been not to waste time over unsettled scientific questions and controversial methods of treatment, but to seize hold of and turn to practical use settled scientific and clinical facts. To this end we have endeavored to set in motion a campaign of education by enlisting the services not only of the medical, legal and clerical professions, but statesmen—Federal, State, Provincial and Municipal legislators, business men, and in fact the whole people, so that some concerted and co-operative action may be taken to utilize the present knowledge on

Delivered at the American International Congress on Tuberculosis, St. Louis, October 3, 1904.



DR. E. J. BARRICK, M. D., M. R. C. S. England,
L. R. C. P. and S. London and Edinburg,
President American International Congress on Tuberculosis, 1904,
OF TORONTO, ONTARIO.

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this great question. Thus our efforts have been to bring together at this Congress all the above, so that by discussion and interchange of thought something practical may be involved and legislation promoted whereby it may be carried into effect.

The good work of organizing this Congress would not have been possible had it not been for the splendid sympathy of the United States Government, and its generous action in inviting the Governments of the various countries in the Western Hemisphere to extend like sympathy, and to appoint delegates to the Congress. Such Governmental sympathy and action I understand is unprecedented in any part of the English-speaking world, except on this continent. We also acknowledge our indebtedness to the World's Fair management for placing the Congress on its official list of Congresses, and in appointing a Committee on Organization to aid in carrying it out. The loyalty of our officers and delegates, and the praiseworthy work of the Local Committee in St. Louis have all largely contributed towards bringing about the happy results of this meeting. The practical advantages resulting from congresses are sometimes marred by the contentions of scientists over debateable scientific questions. We all remember how the good that was hoped for from the British Congress in 1900 was marred by the statement made by Professor Koch regarding the relation of human and animal tuberculosis. Comparatively little seems to be remembered of that Congress save this episode. We are also familiar with the report of the Royal Commission, which was contrary to Professor Koch's statement. The world is rich today in settled scientific and clinical facts regarding this disease; the world is poor today in practical measures to carry these facts into practice, and bring the benefits within reach of those who are so sadly in need of help.

It was therefore determined by the Management that the supreme work of this Congress should be on lines of preventive medicine including preventive legislation, in which the whole people may join and help eradicate so far as possible this great scourge. The question may for practical purposes be resolved into two factors, viz: First, The soil. Second, The seed, no seed, no crop. I shall confine my remarks to Pulmonary Consumption, and the entrance of the germ

through the respiratory channel. This brings us to the consideration of two questions: First, How may we best keep the seed and soil apart and second, How may the system be fortified against the growth and development of the germ when by chance they have gained an entrance. As to the first I may say in passing that the germ laden sputa should be destroyed by fire or germicide as soon as possible after it leaves the body. As to the second, generally speaking, the higher the vitality and tone of the system the less susceptible it is to this disease, and the more difficult it is for the germs to get a foothold. How important is it therefore that the campaign of education should commence in our public and other schools so that the whole people may early learn the nature of the disease, and be taught the things to be avoided, and the things to be done, that will tend to a higher state of health. If this were done state and municipal preventive legislation would be more easily secured and carried out, and we would have cleaner streets and lanes, better sewer and water service, and more sanitary dwellings, factories, shops, and other places of business in which most people have to spend the greater part of their lives.

A most encouraging feature is that while all this is being done to fortify the system against Tuberculosis, it fortifies it against disease of every kind, prepares it to more effectively discharge the duties of life and overcome the obstacle that more or less beset the path of very one. There is no disease that produces so much dependence and poverty as Tuberculosis, and there is no disease that is more readily fanned into life and activity by poverty, with its unsanitary surroundings, than the one under consideration. The rich are able to care for themselves. What can be done for those of moderate means, and above all what can be done for the poor? These are questions that have long been and are today loudly calling for solution. In the solution of these great questions what is the desired goal to aim at? Shall it be one of centralization, combines, and trusts where the objects are financial gain and glory, where the benefits are to be brought within reach of only those who are able and willing to pay the highest price; or shall it be decentralization where the work is one of duty, inspired by love and sympathy for the unfortunate victims of this disease, and where the object is to bring the benefits within reach of the greatest

number, especially the poor and those of limited means. I beg to submit for your consideration the latter, believing that decentralization is the direction in which relief may be brought within reach of the whole people, and that in this, Municipal Sanatoria are to play an important part. To this end each municipality or group of municipalities should have a sanatorium, or what is called by some a "Sanatorium Rancho" exclusively for its own people suffering from Tuberculosis, operating in conjunction with the Local Boards of Health. To consist of from 25 to 100 acres of suitable land, with an administration building, cottages and tents of moderate cost. Provision should be made for consumptives in all stages of the disease, and in all conditions of life—not a free sanatorium, as such would encourage pauperism, but one where those able to pay, shall pay, and where the poor shall be treated free of charge. In matters of education free schools are being brought within reach of every pupil in every municipality. In many county municipalities house of refuge are being built for the poor. In nearly every municipality at the present time special provision is being made in hospitals for those suffering from small-pox, diphtheria and scarlet fever, and general and special hospitals for those suffering from disease other than contagious. Why not then have municipal sanatoria for Tuberculosis, a disease that causes nearly twice as many deaths each year as small-pox, scarlet fever, diphtheria, measles, typhoid fever and whooping cough put together, and directly or indirectly is responsible for one-eighth to one-fifth of all the deaths the world over. On December 15, 1902, Dr. P. H. Bryce, the registrar general of Ontario, made this statement: "Since public health boards have been in operation over 20 years, the acute contagious diseases have been lessened nearly 60 per cent., while tuberculosis has increased almost 50 per cent." The reason of the decrease in the former is no doubt owing to the fact that organized methods including hospitals and other means through boards of health have been in force in the various municipalities; and of the increase of the latter is that no organized methods have been in operation. The advantages of sanatoria treatment have been demonstrated the world over, and especially so in Germany, where a law has been in force for some years whereby all who earn a wage less than \$1.50 a day are compelled to insure against sick-

ness, old age, and death and where the insurance companies are allowed the privilege of expending the weekly allowance for sick dues, in caring for the invalids in special sanatoria with gratifying results. The object of municipal sanatoria is to bring all the benefits of sanatoria treatment within reach of every consumptive in every municipality. This plan is one that commends itself primarily as being above all things along the lines of preventive medicine. In the first place it prevents death by giving an opportunity to those in the early stages of the disease of being cured, in the second place it prevents more cases by removing those from their homes who will sooner or later transmit the disease to the other members of the family. It will also be an economic benefit through not only saving life and lessening cases, but will help to prevent the pauperizing of families who spend their all in attempting to save their loved ones, and provide comforts for them during several years of a hopeless fight with a chronic, and under existing conditions, fatal disease. I venture to say that there is scarcely a general practitioner before me today, or in this whole country, who when he recalls his experience must feel that with a municipal sanatorium within easy reach of his patients, valuable lives might have been saved, and the spread of the disease to other members of the family might have been prevented. A municipal sanatorium should be for the whole people, where every physician should have the right to treat his patients as freely as in their own homes, and where the patients should be free to be treated by the physician of their own choice. Seeing then that such great advantages would flow from a municipal sanatorium in each municipality, why have they not been established, and what are the difficulties in the way. I answer, firstly, the apathy and indifference of the public generally, and secondly, the great cost entailed therewith. Difficulties have been well defined as things to be overcome. How then may the difficulties in the way of municipal sanatoria be overcome? I answer, educate, educate, educate. A campaign of popular education carried on by National Congresses such as the American Congress on Tuberculosis, and such as the Canadian Association for the Prevention of Tuberculosis aided by State and Provincial Associations, backed up by Municipal Anti-Consumptive Leagues similar to the ones in Toronto and Montreal, aided by the Medical,

Legal and Lay Press, the pulpit and the platform, should be sufficient to arouse the public to a sense of its duty in this great work of saving and prolonging the lives of the people. When public opinion is thus educated it ought to be an easy matter to secure aid from the Federal Government to assist each State or Province in establishing one experimental sanatorium that would be a pattern and object lesson leading on to municipal sanatoria.

It is a pretty well established fact that the consumer pays the duty and as the revenue then is paid by the whole people, it does not seem unreasonable that some of this should be expended in experimental sanatoria as indicated, seeing that large sums are freely expended in experiments in relation to tuberculosis among cattle, and in relation to agriculture, dairying, etc. All that is necessary is that the public be educated up to it. The first step being accomplished it ought not to be difficult to secure State and Provincial legislation similar to what was secured in Ontario in 1900 on conditions that the municipality aid in the work. In turn By-Laws may be passed by the qualified electors conditional on a certain amount of help being secured from voluntary contributions. By this co-operation of the Federal, State, Provincial, Municipal and voluntary aids a municipal sanatorium might easily be established and maintained in each municipality and brought within reach of consumptives in all conditions of life and in all stages of the disease, and thus not only save and prolong the lives of the people, lessen the amount of human misery, but also prove from an economic standpoint to be a good financial investment for all the parties concerned. It must be apparent to every thinking person that a municipal sanatorium in each county municipality would be an important local educator, and as the mind of the public became seized of its importance, patients would more readily be persuaded to take advantage of a local institution, where they would not necessarily have to pass out of the hands of their own physicians and out of the reach of their friends, and where their chance of cure and improvement would be greatly increased, and the spread of the disease to their friends and the public generally would be materially checked.

In conclusion may I earnestly plead for municipal sanatoria on behalf of the 8,000 people who die each year in the Dominion of Canada, entailing an estimated annual financial

loss of \$48,000,000, and on behalf of the over 100,000 citizens of this great republic, who die annually of this same disease at an estimated financial loss of over \$600,000,000. Let the cry go up from the Atlantic to the Pacific, save the people, save this financial loss, and establish Municipal Sanatoria for Consumptives.



CLARK BELL, ESQ., LL. D.,
Chairman Committee on Organization and of Executive Board,
President Medico-Legal Society,
Honorary President American International Congress on Tuberculosis, St. Louis, 1904

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ADDRESS OF WELCOME.

BY CLARK BELL, ESQ., LL. D., OF NEW YORK,
Chairman Committee on Organization at opening of the American
International Congress on Tuberculosis, Oct. 3, 1904. at
St. Louis, and President of the Medico-Legal Society.

Ladies and Gentlemen, Officers and Members of the American International Congress on Tuberculosis, Delegates From Foreign Governments of the Western Hemisphere:

The opening of this Congress marks a new and important era in the history of the conflict with Tuberculosis and of this body, which was organized in the City of New York, in Feb., 1900, under the auspices of the Medico-Legal Society, on broad and enduring lines, and was the initial organized effort in this Western Hemisphere in that conflict with a disease that had then interested the attention of all Christendom.

The work then begun and carried on with so much energy and vigor as to enlist the co-operation and sympathy of all Governments of both the Northern and Southern Continents of the Western world, culminates today in an International Congress, held at the Universal Exposition, at St. Louis, summoned on the invitation of its officers sent by the Government of the United States of America, through its diplomatic corps, to every Government on both Continents of North and South America, and within the waters and islands adjacent to them.

The aims and purposes of this Congress, the magnitude of its endeavor, could not be more beautifully expressed than in the splendid and sympathetic language used by the American Secretary of State, in his instructions to the American diplomatic corps, which he directed should be sent with those invitations by the American Ambassadors and Ministers.

"The Department is also advised by Mr. Clark Beil, Chairman of the Committee of Organization of the Congress, that the Executive Committee and Officers of the Congress have sent to the Government of each American Country an invitation for official representation by that Government, in the Congress; and the request is made of the Department to give such support to the invitation as it properly may.

"The humanitarian object which this Congress has in view to reach, by the discussion of scientific men, some result in arresting the spread and averting, so far as it may be found possible, the ravages of this dreadful disease which now falls with such terrible force and fatality upon the people of the Western Hemisphere, cannot but enlist the sympathy and approval of the Government to which you are accredited.

"The Department will, therefore, be pleased to have you say to that Government that this Government is in sympathy with the work of the proposed Congress, and would be pleased to learn that the Government of.....took a like interest in its success by the acceptance of the Committee's invitation and the appointment of three or more scientific gentlemen to represent it at the Congress."

The American Secretary of State went still further and directed the American representatives in foreign countries to say to the Foreign Governments thus invited:

"This Government would also be pleased if that of..... could find it convenient to comply with the request of the Committee to give the matter publicity in order that it may come to the knowledge of interested organizations and public spirited citizens of that country."

The Honored name of John Hay, the American Secretary of State, who thus placed the American Government upon this elevated, this noble plane of paternal and sympathetic action in aid of the work of this body, will be long and deservedly remembered by those now suffering from the ravages of the dread disease and by the millions who are yet to fall into premature graves in the future. John Hay's name will live associated with the progress and the glory of our country, from the administration of Lincoln, who loved and trusted him, to that of the lamented McKinley, whose administration he adorned and no one stands higher than he in the affection and confidence of the President of the United States at this moment, or of the American people than he. He deserves the highest praise, gratitude and thanks from this body, which I know I voice from every member for the aid, encouragement and sympathy given our officers by the Department of State of the American Government, in insuring the splendid success that has crowned our labors.

Few will comprehend the effect upon the progress of the world's civilization of such unprecedented governmental ac-

tive sympathetic action, as our organization has received at the hands of the American Government as it marshals its forces, which combines all the learned professions, the scientists, statesmen, legislators and the intelligent laity, in this grand effort of devising the best means which human endeavor can hope to accomplish, by preventive legislation, in arresting the terrible destruction of human life from this one cause and of averting for the future this dreadful devastation with which the human race has been confronted in the past.

The first fruits of the governmental sympathy came from the Management of the Universal Exposition, which, on learning that our body had announced that its Congress would not only be held in 1904, but that it would be held in St. Louis, invited us to hold our meeting under its auspices and proposed to organize it as an International Congress under its auspices.

This invitation was accepted by our Management, and the President of the Universal Exposition appointed a Committee on Organization for that purpose and assured the members of that committee that every assistance and encouragement within the power of that body would be thrown to aid our endeavor.

It will be well to remember that this Universal Exposition had then already organized an International Medical Congress, to be held under its auspices, at St. Louis, at which it was expected that the medical aspects of Tuberculosis, its treatment, pathology and bacteriology would be discussed from medical standpoints, and that the Committee on Organization and all other committees and Foreign speakers had been, not only selected, but announced.

It is an open secret that this splendid work, so creditable to the medical profession, was frustrated and finally abandoned through the action of a few impracticable and dissatisfied medical men, and for which the Management of the Exposition were in no wise responsible.

It is also well known that by concerted action of those who were responsible for the overthrow of the efforts of the Exposition to have such a Congress at St. Louis, and with such medical aid as they could control, it was determined by them that no Congress against Tuberculosis should be held at St. Louis in 1904, if they could in anyway prevent it.

Both the Management of this body and that of the Universal Exposition well knew of this hostility when the Committee on Organization of this body was appointed.

The Committee on Organization of this body decided to ignore and disregard and overcome this hostility. They believed that the American people and the best men in the profession desired that a Congress should be held at the Universal Exposition at St. Louis. That the exigences of the hour demanded it, and that no more fortunate selection could be made than St. Louis, where all the world was to meet at this Exposition, which was so splendidly sustained by the Government of the United States, as well as by its influence as by its financial aid.

The Management of the American International Congress on Tuberculosis, congratulates the Management of the Universal Exposition on the magnificent success that has crowned its labors. I voice the unanimous sentiment of this Congress, its officers and members and of the Committee on Organization, which President Francis named when I assert that we are proud, that we have met under its auspices.

The Exposition, in which this Congress meets, is a monument to the energy, the industry and the grand and splendid capacity of its officers.

It has had no parallel or equal in any effort, that has ever preceded it in the days of modern civilization, and I feel confident that this must be the judgment of every unbiased mind who has seen its wonderful exhibit.

In the name of this Congress I extend a hearty welcome to all the delegates from Foreign Governments, whose delegates are with us, to the still large number, whose hearts, voices and pens are in sympathy with us and now on our lists as soldiers in this conflict, but unable to be present. Our absent friends and others outnumber by far those here assembled.

Our thanks are due to those Governors of American, Cuban, Mexican, South and Central American States, Canadian and other Provinces, who have accepted honorary official positions in this body, and to those of our members who cannot come, but whose hearts are with us now as we meet for conference and for action.

As the President of the Medico-Legal Society, I welcome you and congratulate that body and every one of its officers and members, that the successful opening of this Congress, in this place and presence is the culmination of a noble, a humane and a praiseworthy purpose, which animated those who founded this organization in 1900, in which students of Forensic Medicine could combine with men of all professions and which has received such support as you now see manifested at its auspicious opening.

ADDRESS.

BY HON. MORITZ ELLINGER.

Chairman of the Council and Honorary President of the American International Congress on Tuberculosis, Corresponding Secretary of the Medico-Legal Society, Address made at the Opening of the Congress at St. Louis.

The International Congress on Tuberculosis held at St. Louis, will soon be part of the history of the united efforts of scientists, medical men and philanthropists for the mitigation and suppression of that greatest of scourges, which has ever threatened the life of the human family. We know that the most insidious foe of human life is tuberculosis, it numbers its victims by millions and its ravages are such that when the tubercle has found a lodgement in the lungs of the living body, be it man or animal, it cannot be reached by the skill of physicians, until it has achieved its fatal mission. Many of the symotic diseases, which in the past have decimated the human race have been almost eradicated or at least successfully fought until epidemic spread is no longer apprehended, scarlet fever, typhus and typhoid, diphtheria and cholera are no longer feared. Not only has the insidious enemy, the bacillus to which they owe their birth or to which they give birth, been caught identified and grappled with, but in very many cases the antidote found which neutralizes the effect of the deadly bacillus, but the sanitation of homes, of highways and byways has closed the canals by which the bacillus found a convenient path to travel and spread. Even that dreaded disease the yellow fever has yielded to public sanitary measures and is gradually disappearing in epidemic form and diseases such as cholera, typhus, small-pox is yielding to the broom, the brush, the canalization and general cleanliness. John Wesley, though still in the grasp of

Dr. Moritz Ellinger was unable to be present at the opening session of the Congress, by reason of ill health, but makes this contribution at the request of the Management.

the theological misconception of his times that science must make halt at the portals of the Biblical letter, had the courage to pronounce the golden words: "Cleanliness is next to Godliness."

We have not yet found an antidote to tuberculosis, nor a serum that can give immunity to tuberculosis contagion, but the concurrent, almost unanimous opinion of the medical and scientific faculty that sanitation and pure air is the best prophylactic not only as an efficient weapon against the ravages of the destructive tubercle when it has already found lodgement in the human body, but chiefly as a measure prevention. Justly then was the chief attention of the Congress confined to the discussion of means and measures of prevention, thus narrowing the field of propagation of disease. The only hope of eradicating the disease completely lies in the eradication of the breeding places, where only society at large, the municipal community and the state can furnish the requisite means, where legislation can enforce the dicta of the competent scientist and hygienist. It is a well established fact that the tenement districts furnish the real breeding ground of the tubercle bacillus. There crowds huddled together in small, badly ventilated rooms, where filth and dirt abound, tuberculosis has its origin, and not only disseminates its fatal poison among the denizens of the crowded quarter, but spreads the deadly virus to the people with whom the infested victims come in contact. Nor is there any doubt that at no distant future an anti-toxin will be found which will effectually destroy the tubercle bacillus without affecting the other tissues of the organs. The latest invention by Richard Griese, of Germany, a layman, called after him "Griserin" appears to be very promising and is highly spoken of by eminent physicians of Germany who have applied it with considerable success. The fact that medical men consent to the test of an anti-toxin invented by a layman speaks greatly for the probability of its efficiency, but it furnishes the evidence of the co-operation of all classes needed for fighting the great enemy of the human family.

The need of co-operation of all intelligent members of the learned profession, of all who have at heart the welfare of the community has been recognized some time ago by the Medico-Legal Society of New York. That organization was

the first, I believe which appealed to the medical and legal fraternity throughout the country to meet for deliberation upon the best measures to be adopted for instituting an earnest warfare upon the ravages of the tubercle bacillus. In response to the call of the Medico-Legal Society, the first Congress on Tuberculosis assembled and it was attended by many men eminent in medical science, in medico-legal jurisprudence, and in public hygiene; several others followed, culminating in the International Congress of St. Louis. The agitation must be kept up and ~~what is of great~~ importance, practical measures must be pointed out and submitted to the Governors of the various States and their co-operation with the legislative bodies of their various States solicited. Our public administrators are as a rule liberal enough to encourage the execution of practical measures; we have an instance in the creation of a Commission for the Study of Pneumonia and Diseases of Respiratory Organs, for which an appropriation of \$10,000 has been granted by the Board of Apportionment of the City of New York. In the State of New York a number of Sanitariums for the treatment of tuberculosis are already established and so have other States done the same thing; but the cry is for more, and as it is the consensus of opinion of the best medical authorities that the only effective remedies in fighting tuberculosis are fresh air and good nourishment, we should use every effort to increase the number of sanitariums, divided for those in the first stage of the disease, those of advanced cases and those in a state of convalescence. The Medico-Legal Society has undertaken a great mission and it should continue its noble efforts and seek to attain greater efficiency.

ADDRESS.

BY PROF. CHAS. H. HUGHES, M. D.,

Honorary President, St. Louis, Mo., at the opening of the
American International Congress on Tuberculosis,
at the Universal Exposition, St. Louis,
October 3d, 1904.

Mr. President, Ladies and Gentlemen.

It is a pleasure to see in this organization more than one interest than that of the medical profession alone aroused to combat the deadly march of the great white scourge of civilization.

You represent the justly alarmed and aroused people, following in the wake of our profession which has so clearly marked out the way of hygienic salvation.

"Line upon line and precept upon precept," have come from the ranks medical. It has now made the way so plain that even a school boy and the wayfarer may know how to proceed in order to escape the ravages of this deadly scourge.

What we need now is popular awakening and organized defensive action. This you have undertaken, with legitimate medical resource, to accomplish.

Your efforts will arouse the people from their apathy and dissipate the lethargy which comes from the unwarranted sense of security of ignorance, in the face of danger.

The enlightened and charitable, through you, will be moved to act in the line of light shed by the medical profession and the ignorant and indifferent will be forced, by proper laws of your suggesting, to make themselves and others safe from the danger that threatens and destroys.

I greet you and welcome you, not only because among you are many physicians who know the sanitary phases of the problem of tuberculosis, but because among you also, are many lawyers knowing the peoples' rights and how to secure them, and many charitable philanthropists feeling

and wishing to accomplish the peoples needs in the line of safety. For while tuberculosis is not communicable, like small-pox or scarletina, it is carried to the innocent and unsuspecting of harm through careless expectoration and filth fostered destructive germs.

Of the known causes of death in this country alone, it has been estimated that over one hundred and fifty thousand people die annually of tuberculosis. This is the known and admitted death rate for this disease, mostly involving the lungs. But this is only a statement of the certified and acknowledged deaths due to pulmonary or tubercular consumption, as it is yet often called and was generally termed, up to a quarter of a century ago when Koch found the bacillus of tuberculosis and demonstrated as undeniable truth what had long before been suspected, namely: its contagiousness especially through the sputum and other excretions.

A complete record of mortality from undetected and unreported cerebral, visceral and intestinal tuberculosis would greatly swell the actual death rate record.

Ladies and gentlemen, you are worthy crusaders in a noble cause, the cause of a disease pained and disease imperiled people. You are enlisted for warfare against and defeat of a plague, which, in view of the plain light Medicine has thrown upon the foe and the strong weapons it offers to your hands for its fighting, must surely be conquered through such efforts as you are now making.

By your help, the deadly tubercle infected dust of our streets will some day be disinfected, or washed away and cease to kill. The ice man will no longer drag his death dealing, as well as thirst cooling product over our side walks, to collect the sputum carried germs of tuberculosis, typhoid, syphilis or cancer and carry them to our drinking water. Through your efforts city authorities will look better to the purer quality of the water carried to the peoples houses. The old clothes man and public libraries and public places of rest, recreation, eating, amusement and sleep, will be brought under proper sanitary laws of disinfection, arresting the many now needlessly disseminated diseases, before they can do harm to the people, especially among the ignorant, the poor and helpless.

Your crusade is, in the highest sense, a pure food, a pure air and a pure drink crusade. It is a crusade for cleanliness and humanity, to save the bodies of men, women and children, and their souls from the handicap and heart rendings of insidious untimely disease and death.

When you are through with this fight against the needless spread of tuberculosis our cities will have clean streets, clean houses and clean people. The butcher will not expose his meat in the stall or carry it on wagons through the street uncovered. Hotels will not offer you tubercle infected rooms to sleep in, nor Pullman Palace cars to travel in. Nor will dairymen dare sell you the milk of tubercle infected cows, or the Dago, on the street corner, fruit wrapped in sputum infected dust. The butcher, the baker, the grocer, the clothier, the merchant in general and the manufacturer, the caterer of whatever sort to your needs, will have a care for the cleanliness of his goods and a concern for the sanitary welfare of his customer, as well as an eye to his profits. With that enlightened public sentiment on the subject of the spread and means of preventing spread of tuberculosis, it will be profitable for all who deal with the people to respect and obey the gospel of cleanliness, and then the will of the people come into a full realization, as they do not yet understand the full significance of the poet's conclusion:

"Wise physician skilled our wounds to heal,
Are more than armies to the public weal."

You are walking in the wake of wise medical counsel and I counsel you to keep on till victory, now so plainly in sight, shall crown your wise, noble, generous and humane endeavors.

Your welfare for the weal of the world in this time of its peril, none the less real, because it is insidious, and because the people do not as yet fully realize the impending danger will be fully rewarded. The people will soon say, you sounded the alarm and called us to defensive action none too soon.

ADDRESS.

BY JENNIE MCCOWEN, A. M., M. D.,
Vice President Iowa State Medical Society and New York Medico-
Legal Society; also Vice-President of the Congress from
Iowa, and Ex-President and Delegate from the
Society of Iowa Medical Women.

At the opening ceremonies of the American Congress on Tuberculosis, in responding for the State of Iowa, Dr. Jennie McCowen, said:

Mr. President and Members of the Congress.

I am glad to add my word of congratulation to those that have preceded me:

"To cure is the voice of the past,

To prevent, the divine whisper of today."

And it certainly is a matter for warm congratulation, that so many physicians, sanitarians, men of scientific attainments in various directions, and men of affairs, have foregone the beguilements of the great Exposition, and stopped here, day after day, to consider this subject of Tuberculosis in its wider aspects.

For it must be studied, as we well know, not simply as a problem for medical skill and acumen as a medical practitioner might view it, but also as a humanitarian problem with legal and legislative aspects, which must receive the attention of municipal and State officials, of those who dispense relief, and of those who, out of their abundance, may provide the means for carrying into execution the plans which will represent the combined skill and best judgment of all these experts.

It is inevitable that from so many view points, there will be differences of opinion in various directions, but as we conscientiously study the problem, an adequate solution will undoubtedly be reached embodying the best wisdom of all, and securing the hearty co-operation of all, for the good of humanity.

In hope of speedy and harmonious action, in all countries, along these lines, Iowa greets you.

ADDRESS.

BY DR. G. E. DEWITT, OF NOVA SCOTIA,
Vice President from Nova Scotia and Mayor of Wolfville, N. S.
At the opening of the Congress.

Mr. President, Ladies and Gentlemen.

Having received an invitation from the Chairman of the Executive Board of the Congress to attend this Convention, in the capacity of delegate from the Province of Nova Scotia, I take great pleasure in responding for that Province before this body.

For several years past Nova Scotia has not been lagging in action or in considering the most effective ways and means in preventing the spread and contagion of tuberculosis.

In the year 1900 an act passed the legislature of Nova Scotia to establish a sanitarium to aid in the treatment and care of persons suffering from tuberculosis. Within the past year a sanatorium has been built and equipped by the government, at a cost of about \$25,000. The building is situated in Kentville, and capable of accommodating about twenty patients. The situation is a desirable one and suitably adapted for the purpose. Literature bearing on the subject of tuberculosis has been circulated by the Provincial Board of Health, instructing the people as to the care of sputum and how best to avoid contagion.

The Canadian Congress, for the prevention of consumption, has sent their Secretary into the Provinces, who has given practical addresses on the subject, demonstrating the nature of the disease, how to avoid and how to live so as to arrest its onset.

The medical profession in Nova Scotia, while impressed with the necessity of providing sanatoria for the treatment of consumption realizes that a constant vigilance

must be maintained in the furtherance and promotion of the principles of hygiene, by teaching the people the necessity of observing sanitary law, for unless sanitary law is observed and enforced we can never hope to cope with the disease by the aid of sanatoria alone.

I am not here, however, to give or advance anything new to this widely representative convention, but to gather from better men than I some of the good and profitably expressed thoughts of those I shall have the privilege and pleasure of listening to during the Congress.

Further on I shall be pleased, if permitted, to speak on the lines relative to the subject of the paper I have had the privilege of contributing to the Congress.



F. E. DANIEL, M. D., AUSTIN, TEXAS,
First Vice President American Congress on Tuberculosis, 1902-3,
President State Medical Society of Texas,
President-elect American International Congress on Tuberculosis, St. Louis, 1904.

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ADDRESS.

BY DR. F. E. DANIEL, OF AUSTIN, TEXAS,
President-elect of the American International Congress on
Tuberculosis, St. Louis, October 5, 1904.
Accepting the Office of President.

Mr. Chairman and Gentlemen.

The distinguished honor it has been your pleasure to confer upon me is as unexpected as it is undeserved. Your selection should have fallen upon one abler and better known than myself, and a representative from one of the older States. It should have been conferred upon some distinguished man who, by his work, is more fully identified with the subject. There are many here better fitted for it and better entitled to the honor than myself; there are those who have the time and the special fitness and the means to bestow upon the great work we have undertaken. I seriously mistrust my ability to meet your expectations. But on my interest, nay, enthusiasm in the cause there is no discount. In an humble way and a limited sphere I have done my best for the cause. I have sown seeds, most of which have fallen, I fear, in stony places, and I see few results. It is a matter of pride with me, however, to believe that some have fallen in good soil and have borne fruit. It is no spirit of vanity, but one of pardonable pride, to say that I believe I was the first one to advocate and urge a radical change in the construction and equipment of sleeping cars. Fifteen years ago I began the campaign, and have pushed it constantly by tongue and pen. The sleeping cars in general use are overheated, badly ventilated and are equipped with furnishings that harbor the germs of disease, and they can not be entirely disinfected. One literally takes his life in his hand when he sleeps in one of them. I advocated an aseptic car—roomy, well ventilated and equipped with rattan and linen, and rubber, in-

stead of woollens, plush and fancy carvings. You may imagine my delight when on starting to St. Louis I found myself in my ideal car, my dream, on that model and progressive railroad, the "Texas Road," the great I. & G. N., of which all Texas is justly proud. This road, upon the advice of its chief surgeon, Dr. W. G. Jameson, who is to-day present as a delegate to this Congress, was the first railroad in the world, so far as I know, to disinfect sleeping cars by formaldehyde, and Texas has the proud distinction of being the first State to pass a law requiring it. It is not vanity, but a justifiable pride that claims for my advocacy a part, at least, of the credit for that reform.

In accepting the honor you have conferred upon me—and the burden—I will, in the future, as in the past, do all in my power to carry forward the great and glorious work of sanitary reform. Preventive medicine with this Congress, aims primarily at that fell destroyer of human life,—consumption. We are confronted with a vast problem and have undertaken a Herculean task. We are but a handful, it is true, but in this assemblage of earnest workers, lay and medical sanitarians of recognized ability and renown, what potentiality resides and what achievements may result, is beyond conjecture. The pilgrim fathers were but a handful, but they reclaimed this great continent from the savages. The pioneers who pushed across the waste places—the deadly deserts and the formidable Rockies were but a handful, but they won the great West—the future home of teeming millions, and gave to our energies and products an outlet on the great Pacific. We are but a handful, but, undismayed, we have entered upon the mighty work for humanity and race integrity, encouraged rather, by the record in recent years, of sanitary science, which has banished smallpox, banished yellow fever, disarmed of their terrors diphtheria and even bubonic plague. We are encouraged, moreover, by the alliance already made, this first meeting, with the National Association of Civil Engineers. We are honored this afternoon by the presence of their representatives in the person of their President and Secretary, who came to assure us of their co-operation and support. Already, too, we have attracted and won to this Congress the great Fraternal League of America, a consolidated body of all

the fraternities, whose membership now reaches five and a half millions, and who have been fighting consumption single-handed. They have joined forces with this Congress, and we welcome them gladly. They will co-operate with us and will be represented in our next assembly. And last, and the most gratifying of all, we have effected an alliance with and secured the support and co-operation of the Women, the Iowa Society of Medical, fittingly represented on this floor in the charming person of their delegates. God bless them all!

"They talk about a woman's sphere
As though it had a limit;
There's not a place in earth or heaven,
There's not a task to mankind given,
There's not a blessing or a woe,
There's not a whisper, yes or no,
There's not a life, there's not a birth,
That has a feather's weight of worth—
Without a woman in it."

Thus, as in world-building, a nucleus, a center of attraction, has drawn to it independent and detached particles and forces, and acquired increased momentum. Thus will the work of this Congress go on until it will unify all the leagues and other organizations for war against the giant, consumption; and like a mighty river it will go on and on with a rush and resistless force till the great humanitarian end is reached, till consumption shall be circumscribed and inhibited in its deadly work. It must be rendered powerless for harm. Not only is it the deplorable loss of life every year that is so appalling, but where one dies there are perhaps a dozen sick and incapacitated, yet who transmit at least the predisposition, a weakened vitality to coming generations. This threatens our race integrity. The public health is the foundation upon which depend the strength, efficiency, progress, even the existence of a State or nation. Given strong, healthy units and we have a strong, aggressive and progressive civilization. An enfeebled nation never carried the blessings of civilization to a benighted world or held its place in the struggle for existence or supremacy.

But this brings up a consideration of that deeper problem—not the arrest of the spread of the infection, but the eradication of the disease. This problem lies at the root

of our social fabric; consumption is a disease of civilization, and is inherent in our lives and industries. It is a house disease, and flourishes because of unsanitary dwellings and factories, and modes of travel, of living and labor. And here is where the engineers come in; here is where their labors touch ours. They are the most powerful factors in that reform which alone can diminish, not to say eradicate, the disease. They have to do with construction of buildings for living and for labor; with sewers and waterworks—those great purifiers; with heating and ventilation; with plumbing and drainage, and with street cleaning, hence with dust, the great and terrible distributor of infection. The government should have the supervision under a capable and honest engineer—of the construction of all buildings, public and private, for residence or work, and especially of those of the laboring classes. No soulless landlord should be permitted to crowd tenement houses on insufficient ground and deprive the poor of God's sunlight and air. An abundance of both, with plenty of pure water, is a God-given right. Crowding of whole families into one small apartment, where they eat, sleep and work in a suffocating dark air, should be prohibited, for there is the hot-bed of the disease, there the monster, tuberculosis, has his lair. Already much has been done in this direction in New York, and the death rate of consumption has materially decreased.

It is comparatively easy to prevent the spread of the infection under favorable circumstances. The poison is in the sputa, and, if this be destroyed, the consumptive is powerless for harm. It is a mistake to suppose that the disease is contagious; it is in no sense contagious, but is infectious, and therefore, communicable. The infectious element must be destroyed so it cannot be communicated to the well. It is not "catching," it cannot be caught merely by contact. It can not be acquired simply by contact, and it is an open question still, if it can be transmitted by other means than by the introduction into the lungs of the tubercle bacilli, most frequently in dust. And, even then, there must be a suitable nidus, or it will not germinate. Healthy persons have, in many instances, the living germs in the mouth and throat; but still the consumptive should in a measure be separated from the other

members of the family, for breathing his expired air may communicate the disease; hence the danger of crowding. Sunlight and air, while a vital necessity, will not disinfect a room.

But it takes authority and means to enforce even the simplest precautions, and somebody must think and act for the toiling millions—the understratum of society—who occupy the slums and other unsanitary places. They can not be reached by any “Campaign of Education.” You can not reach them with your literature, and, if you could, they would not read or understand it, and they are powerless to act. The government should be paternal, and take care of them, if not for their own sake, for the protection of the public and in the interest of race integrity.

And here let me sound a note of warning. In all reforms there is apt to be a reaction, and, in striking at one evil, we are apt to create another. We are apt to go to extremes. Witness the French Revolution as an illustration. When, revolting against centuries of oppression and wrong, the people rose in rebellion; when the Jacobins had overthrown the conservatives, the Girondins, when the French King and Queen had been led to the scaffold, when the aristocracy had been exterminated, mad with the lust of blood, the revolutionists turned upon each other, and a reign of terror followed which shocked and paralyzed the civilized world. Let us be careful that in our crusade against the disease, consumption, we do not make war upon and wrong and outrage the consumptive. He is not a subject for quarantine. It is not a quarantinable disease. He is not, like a leper, unclean, unclean, and to be shunned like a pestilence. If the poison he expectorates and the air vitiated by his breath be avoided, he is as powerless for harm as this table. He should not be shut out from your States. In Colorado and in California and in Texas many, very many of the best citizens went there either invalids from consumption, or for the health of some member of the family. The Commission of Immigration in June, 1902, on an opinion of the then Attorney General, decided that consumption comes within the scope of the Federal law excluding immigrants suffering with “a contagious disease dangerous to the public health,” and under this ruling an immigrant was actually

separated from his family and not allowed to land, but was sent back whence he came.* This is a great wrong, an injustice, and such exclusion by any State will work wrong and injury and inhumanity. California should welcome the consumptives, but not by quarantine.** They should be segregated, if bed-ridden, and given the benefit of the pure air and sun and wholesome fruits of that God-favored clime.

I have spoken longer than I intended. I am full of the subject, and "out of the fullness of the heart the mouth speaketh." I take up the burden you have placed on my shoulders, and enter into the great work with hope and encouragement. I ask you to hold up my hands even to the going down of the sun, and the battle for humanity will be won.

To the attainment of the great ends for which this Congress was created, I dedicate the remaining years of my life, and pledge my most earnest endeavors.

* Since this address was delivered a distinguished Judge from Tahiti, suffering with consumption, was on his way to Europe, via San Francisco and New York. The California authorities refused him permission to land and cross the continent to New York.—ED.

** California delegates advised exclusion of consumptives, or putting them in State lazarettos.—ED.

REMARKS OF DR. F. E. DANIEL,
First Vice-President, on "The Communicability of Tuberculosis."

Remarks of Dr. F. E. Daniel on the floor of the American International Congress on Tuberculosis, on the second day, in reply to Dr. W. D. Neal, of Chicago; Dr. J. C. Ross, of Colorado, who wished to deny and wished to discuss the communicability of tuberculosis:

The language of the report of the Chairman of this Symposium, in submitting the resolution for discussion, as the basis of preventive legislation, is as follows:

"Conceding that tuberculosis is a communicable disease from one human being to another, without which no legislation could be sustained by the courts, the real burning issues that confront the Congress may be thus briefly stated: (1) How far can legislation be devised that can arrest, avert, or even diminish, the terrible mortality of consumption, under which the human race now suffers? (2) How can this Congress devise means that will educate the public mind to a recognition of the imperative necessity of legislative action, and define its scope and field? and (3) to favor the passage of such legislation as is deemed likely to best accomplish the desired results; and (4) How can public opinion be best aroused, formed, and enlightened so that the public will favor the enforcement of such legislation when adopted?"

I have been of the opinion that the dictum of the immortal Koch as to the cause of consumption was universally accepted. I did not know that there was an intelligent and properly informed physician in the world who questioned the now generally accepted fact that the tuberculosis bacillus is the cause of the disease. I thought the etiology of the disease was now understood and accepted, and that like the doctrine of evolution, it was the starting point for further research. I am, therefore, surprised that there should be offered here today papers that call it in question, and which, if read, would open up a controversy practically settled, and lead to an endless discussion. The censors appointed by the Executive Council of the Congress have very properly voted to exclude those papers. It would be profitless to thrash over the old straw and a waste of time to enter upon an academic discussion of the disease. We are not here to split hairs on clinical features and pathological conditions. The days for talking are past, and the time for action has come. We are here to do something for the arrest of the spread of that most insidious and deadly of all diseases, tuberculosis. This Congress was called for a definite and specific purpose. That purpose was announced broadcast over the world, and it is surprising that there are those here who do not understand what it was, and who would take up the limited time in a wrangle over points disputed, so far as I know, by no one but themselves. That purpose was to put in motion, if possible, influences that will awaken a public sentiment, and lead to legislation; to induce Congress and the States to put into operation measures to lessen the fearful mortality of

consumption; to prevent its spread from the sick to the well, and ultimately to do what may be done toward the eradication of the disease.

We do not know all about consumption, but we know how it is caused, how propagated, how communicated from the sick to the well, and we know that its spread is preventable and it can be prevented by comparatively simple measures. But it requires authority and means to devise and enforce those measures, and our lawmakers alone can give that authority. We are here, then, for that purpose: to interest the public and the law-making bodies, to show them these things, to bring them to a realizing sense of the useless and perpetual waste of life by a preventable disease; in short, to set in motion influences that will lead to efficient action by the Federal Government and the States.

According to the United States census for 1900, there were that year 111,000 deaths from consumption in the United States in the registration districts alone. Those districts embrace about two-thirds of the population. Figuring on that basis, we find that there are, in round numbers, 150,000 deaths from consumption in America every year;—a number equal in five years to the entire losses on both sides, from all causes, during the four years' Civil war,—750,000. In ten years this means a million and a half of people lost by one (preventable) disease alone. These figures are appalling, yet nobody except a few physicians and sanitarians seem to know it or to care, and these few have again and again asked in vain for legislation to stop it.

If America were invaded by an armed host, and our people,—men, women and children,—were slaughtered at the rate of over four hundred a day, every day,—every year,—all the time,—what would be the state of public sentiment and the attitude of government? Every recourse of science, skill, authority, action, and money would be brought into play; every energy and power exercised to arrest it; but, both the governments and the people are strangely apathetic in the face of the fearful ravages of the white plague. It is not indifference; it is because they do not know it and realize it, and know that there are means of arresting the ravages of the disease, its communication from the sick to the well, and that the predisposition to the disease can be greatly lessened by hygienic life and sanitary surroundings. They must be enlightened, as far as it is possible to enlighten them, for it is impossible to reach and impress the millions of unfortunates,—the under stratum of our social fabric,—the toilers who, in crowds, eat, sleep, and work in unsanitary houses and are poorly fed. If they could be reached and aroused they could not act. They are as children, and the government, in loco parentis, must act for them.

Mr. Chairman, there is interest, nay, enthusiasm, in this body, but, judging from what I have heard and the number of resolutions that have been introduced, there seems to be lack of understanding as to the direction that energy and enthusiasm should take. I hope, sir, that the committee on resolutions will report upon them, setting forth the sense of this Congress as to the duties of Congress and the States in the premises; or, that this body memorialize Congress to take immediate action to protect the public from the tubercular infection.

Note.—The Congress refused to take time for the discussion of the "Communicability of Tuberculosis," and ruled it out as a waste of time.

ADDRESS OF DR. SALVADOR A. PRATTO.

Dr. Salvador A. Pratto, Consul for the Argentine Republic, in St. Louis, Mo., Honorary Vice-President of the International Congress on Tuberculosis, made an address at the opening of the Congress, of which the following is a translation:

Ladies and Gentlemen:—I feel proud indeed to hold a seat among the most prominent physicians in the United States, in this imposing International Congress on Tuberculosis, that "white plague," as you have called it, to assert which is such an important question to the human being.

I notice that this Congress is mainly aiming at the immediate help of those two millions of patients who, according to Dr. Daniel, are affected by tuberculosis here in the United States, diminishing therefore the two thousand and five hundred deaths that occur daily in the United States, on account of tuberculosis.

Your undertaking deserves the highest praises and harmonizes with the crusade that medical science is now fighting. The philanthropic sentiment that moves you is entertained also by all physicians all over the world. A medical doctor is an apostle of salvation and for the nature of his profession, sometimes is performing the most charitable and heroic acts that are only inspired in the man by the idea of God and by a thought of love toward the human being.

Your task is very hard, although I see you are satisfied with the actual knowledge of the etiology and therapeutics of tuberculosis, in order that you can start an active campaign and bring a quick relief to the sufferers, joining for the sake of the prophylaxis, the action of the Governments and trades to the technical elements of science and to public health.

You have before you gigantic walls to demolish, your path is full of obstacles that will only be removed by the work of the ages after a dreadful experience.

The fight against tuberculosis is not merely technical but it is a medical-social fight. Science is daily conquering the microbe and this is a satisfaction to the medical world. But against whom is the fight directed? Against the bacillus or against social extravagance? Gentlemen, I believe that this and not the bacillus is the most powerful foe you have before you. We must not forget that there is an undirected generator of the tuberculosis which is alcoholism and syphilis. We must not forget that there is a state of biological depression, called "degeneration," which is the true "white plague" of modern civilization. Is not the bacillus the agent that will liquidate the situation, already biologically depressed by other causes that have penetrated and poisoned the economical system or have paralyzed the organic system on account of bad speculations, realized with the knowledge and consent of the parties?

How is the organic system of the ignorant laborer, who works for twelve or fourteen hours in a shop, without sufficient air or light, who is drinking alcoholic beverages, because he is delighted in sip-

ping them; who cannot have at home ailments to support his body, but a scarce food according to his limited means? How will the organic system of the wife of such a laborer thrive if she lives with him in the same dark and damp room? When a child is born to this couple, even in its conception, the embryonic protoplasm will bear the poisoning effects of alcoholism, the extenuation caused by the anemic nature of the mother and the want of alimentation, of air and of light. The husband leads a disordered life and the wife has not the proper nourishment to live according to a sound physiological system. On the contrary, if both, husband and wife have a sufficient intelligence, and are compelled by circumstances to wear themselves out by working in the shops and living in an unhealthy dwelling, in order to meet the most necessary expenses, if a child is borne to them, in such a miserable state, for this increase of a member in the family and for the diminished revenue, the wife is compelled to quit work, the three persons are often doomed to tuberculosis. Who has prepared the feeding ground to the bacillus Koch? Society! The bacillus will destroy the existence of two organisms, that have killed themselves and are unconscious murderers, when vice is predominating on an innocent victim when misery is prevailing.

Gentlemen, who is the destructive agent? The bacillus or Society? To my idea, Society is responsible. There is the worst foe you have before you. The material interest of the individuals, constitute our target in the actual campaign, and we have to overwhelm them. In the struggle for life, the individual egotism, advocating the collective convenience, is making more victims than nature itself, in its biological evolution. From a technical standpoint, you may rest confident to win the battle against tuberculosis, but you will never win the crusade against the vineyards, against the distilleries and against the class of people ruling society, the government and the capitalists, who, while simulating philanthropy in reality are poisoning the people with alcoholic drinks, and robbing the people with taxes on alcohol. I deem that to educate the people, you better work harmoniously with the church. Your people are very religious and the suggestive power of your ministers will get better results than our efforts to propagate the principles of domestic hygiene that you advocate. Marching all united toward such an high ideal, organizing leagues against tuberculosis, against alcoholism and other vices, but we must not forget to organize the strongest forces against egotism and human stupidity.

S. A. Pratto, has since the adjournment of the Congress, been appointed Secretary of the American International Congress on Tuberculosis, vice Dr. Fernandez Y. Barra, suspended, and is now acting as secretary for Spanish-speaking countries, of which members and officers of Spanish-speaking governments in the Western Hemisphere will please take notice.



**VICE PRESIDENTS FOR STATES AND TERRITORIES AMERICAN
CONGRESS ON TUBERCULOSIS.**

J. B. CLAYBERG, ESQ.,
Helena, Montana,
Vice President for Montana.

DR. J. HILDEGARDE TYNDALE,
Lincoln, Neb.,
Vice President for Nebraska.

J. A. McNEVEN, M. D.,
Gibbonsville, Idaho,
Vice President for Idaho.

DR. GEO. G. VERBRYCK,
Cambria, Wyoming,
Vice President for Wyoming.

DR. T. B. LACEY,
Council Bluffs, Iowa,
Vice President for Iowa.

DR. J. J. GIBSON,
State Veterinarian,
Vice President for Iowa.

THE OBSERVANCE AND ENFORCEMENT OF SANITARY LAWS THE MOST EFFECTIVE MEANS TO PREVENT THE SPREAD OF TUBERCULOSIS.

**BY DR. G. E. DEWITT, WOLFVILLE, N. S.
Vice-President from Nova Scotia.**

While drugs are indispensable to the treatment and cure of disease, the medical profession have awakened, and people are awakening to the fact that it is wiser to prevent disease than to risk curing after it has incorporated itself into the economy.

The medical man, if he be honest, if wedded to his profession by the bonds of sympathy, of charity, a solicitude by precept, word and example to carry out and make effective the knowledge and experience he possesses, will not be content to wait until the disease has come, but do all in his power to prevent it before it has begun. It should be incorporated in our lives to assist the public to a better understanding of the laws of health, the relation of cause to effect.

Following in the train of a broader and more effective observance of the principles of hygiene, within the two last decades, pathologists have demonstrated and brought from their hidden recesses the germs which weaken and too often destroy the human system.

The tubercle bacillus which is now known to be a great and potent factor in producing the disease known as consumption is still on the war path, seeking whom it may devour. Sanatoria and the fresh air treatment adopted for the care of patients committed to them have, we doubt not, done something to lessen mortality and make a comparatively few lives more comfortable. But it is as yet a drop in the bucket and will continue to be, until hygienic laws are more universally observed. Before governments are induced

Read before the American Congress on Tuberculosis, at St. Louis, October 5, 1904.

to grant subsidies for the building and support of Sanatoria, they must be influenced by the people, and the people will not be aroused to a sense of their responsibility to bring about this reform, until they have incorporated in their lives some of the simple and rational principles of hygiene, and while I do not wish to be understood as speaking depreciatingly of efforts made by this or any convention to devise ways and means to make effective legislation for the building of Sanatoria and the isolation of consumptives, I think I may venture to say, that while legislation has done much to promulgate and give adherence to sanitary laws much is still undone, and until some of those things which are undone are accomplished the effort put forth to build Sanatoria for this disease will be as futile as it would be to check the stream by taking from it a few drops of water while neglecting to destroy the source of it.

Effort should not cease in the direction of securing pecuniary aid from governments for the laudable enterprise of building and sustaining Sanatoria. But while we seek this aid it is incumbent upon us to strenuously strive to educate and instruct the people that they may have a better knowledge of sanitation which when they have attained to it will enable them more cheerfully and obediently to enforce legislation and observe its sanitary laws, especially such rules as will most effectually check this mighty foe the tubercle bacillus.

I have ventured to say in my own country that the man who builds a house on a heavy and undrained soil and undertakes to rear a family in such an environment is living in a fools paradise, and the government who permits it is permitting as much of a violation of sanitary law as to permit him living over a bed of rotten cabbages, or in proximity to an offensive cesspool, or of harboring a decomposed carcass. An undrained and damp soil is the harbinger and abode of pathological germs. The man, woman or child, whose tissue is susceptible to the tubercle bacillus, who lives in such an environment has not the same chance of escape as the one whose abode is in more sanitary surroundings. In the country districts of the Maritime Provinces of the Dominion of Canada damp and undrained soils together with living in close and unventilated rooms has had much to do in propagating the germs of consumption. If this be true and gov-

ernments acknowledge it, will it not be reasonable to seek such legislation as will prevent the house-builder from occupying such premises until prescribed sanitary laws are complied with?

The spitting nuisance is prohibited in some towns and cities for the reason that the sputum contains the bacilli which is the chief source of contagion, and yet there is an urgent need owing to indifference and unbelief among a large number of people that it should be brought home to them so as to dissipate their unbelief.

Unventilated public halls and churches in the country districts, where in the latter we go for spiritual comfort at the expense of the physical, where sunlight and fresh air are at a minimum is another foul fountain which materially adds to and fills the consumptive stream, we can have no better ally than the clergy who may be solicited to bring about the needed reform.

Since the pronouncement that consumption is contagious, the people have become alarmed, while not needlessly so, yet they put a misconstruction upon it, because they are unable to differentiate the character and means of the contagion of tuberculosis from other infectious diseases.

Governments have it in their power to educate and enlighten the people not only by the distribution of literature, but by the appointment of men untrammelled by party, selected not for their political value, but for the fitness to do the work assigned them, Provincial or State. Boards of Health in some countries I know of are appointed by the government. The appointees are the pronounced political followers of the government. Some of the members never sit with the board, but never forget to draw their salaries. The act of governments in appointing those men by first considering their political fitness and lastly the same thing, make of the board a farce, a travesty on the pretensions and acts of legislation and a tampering with human life. The men appointed by governments and corporations to do the work of promulgating sanitary law and enforcing it including Boards of Health, health officers and inspectors, should be removed from the realm of politics.

The destructive bacteria invade squalid homes with impunity. Literature and addresses from capable men will do much to show them that unsanitary conditions of homes,

that filthiness, unnourishing food and squalor of the working people are the agents which propagate the disease and that the greater and more prolific cause of the spread of consumption is not from direct contact with the consumptive, but by living in an infected house. Every Country and State may build Sanatoria for the care and treatment of consumptives and spend millions in the construction and maintenance, but so long as hygiene is disregarded, so long as people have to live and work in stifling rooms, over wet cellars, on an undrained and wet soil, so long will the stream keep full, and no effort on the part of governments, no matter how lavish the expenditure, can meet the demand made upon them. There is need of imperative legislation that all school teachers afflicted with tuberculosis be prohibited from teaching in the schools, that inspection of school children be made at periods during the school year and children be prohibited from attending the public schools who are known to have tuberculosis.

A strong and wide spread opposition is now made against consumptives flocking to the cities of the South and West and the time is not far distant when those known to have consumption will be prohibited from making their abode in the hotels of California and Colorado, and the cities of other Southern climes where so many consumptives have hitherto gone. We then return to the question, "What provision shall be made for them?" which impells us to conclude that the masses must be cared for in their own homes and in Sanatoria in their own climes. When we compare statistics of Sanatoria in Germany and Scotland with those of Muskoka, the Adirondacks of Massachusetts and other parts of the United States we find that the Sanatoria on this continent compare favorably with those of Europe. Dr. Philips, of Edinburgh, although speaking of Edinburgh as a "vilanous climate" owing to mist and dampness, reports that his efforts to care for and treat the consumptive in his Sanatoria are equal to or as good as any on the continent. And with what little experience the writer has had in caring for and treating the disease in a Sanatorium in Nova Scotia, which country is almost surrounded by the sea, we believe the results are equally as good.

In Nova Scotia we have a Sanatorium act for the establishment of Sanatoria, which passed the legislature in the

year 1900. The act provides for other Sanatoria conducted by any private person or benevolent organization to be under the surveillance of the government, and which when approved, each patient shall receive thirty cents per day, not exceeding 100 days. The Provincial Sanatorium at Kentville, Nova Scotia, has been completed since May last. It was erected and equipped at a cost of about \$25,000.00.

The Canadian Association for the Prevention of Tuberculosis has instructed its Secretary to visit the various Provinces and deliver addresses on the subject of educating the people how to live so as to check the spread of the disease.

Public opinion cannot be informed and enlightened by a rigorous enforcement of law to prevent tuberculosis until the people are more aroused, enlightened and educated and realize it is for their good that they are asked to obey the law.

While legislation is being sought a vigorous and more persistent effort must be made to teach the people the importance of obeying general hygienic law, as well as those laws which when complied with will check the spread of tuberculosis. When sanitary law is cheerfully and willingly obeyed, there will not be the need for Sanatoria there is at the present time. The well-to-do will with conveniences adapted to the care and treatment of consumptives, be able more intelligently, to treat them at home. Governments will be required to maintain Sanatoria for those from the poorer classes, who cannot afford to pay for their support and just as the universal observance of sanitary law improves the conditions of the pent up laboring class and those who eke out an existence in slums and insanitary neighborhoods will the demand be less on the government to erect and sustain Sanatoria.

One of the greatest if not the greatest things that Sanatoria will accomplish will be to educate those who stay and are cured there, how to live so as to arrest the disease in its early stages and avoid contagion, and who when they return to their homes, will be teachers of those with whom they come in contact. If for no other object than this the effort to build and maintain Sanatoria is worthy of the support of people and of governments.

NOTES ON TUBERCULOSIS.

For the International Congress on Tuberculosis to be held under the auspices of the Universal Exposition and of the American Congress on Tuberculosis, at St. Louis, October 3d, 4th and 5th, 1904.

MEXICAN GOVERNORS.

The communications from the following officials sent to the gentleman who solicited the place of Secretary for the Spanish speaking countries, agreeing to furnish the translation of such correspondence as we desired, was withheld by him, even after it was demanded and he still holds it and refuses to return it or the translations, on account of which his authority was revoked and Senor S. A. Pratto, Consul for the Argentine Republic was appointed in his place, who has made us translations from duplicate letters, for which we were compelled to apply, when we had reason to believe that the letters had been sent to the Secretary instead of the Management.

The Management having received the duplicate of the original letters only lately long after the session, without knowledge of the action of Dr. Aurelio Melgarijo, can only apologize for what under other circumstances must seem unjustifiable neglect of their Secretary in withholding the original letter or its translation.

Governors of States in Mexico or in Cuba, officials in Spanish-speaking countries, who forwarded their letters to this Secretary, instead of to the officers of the Congress and who have received no responses, are requested, those who have not done so, to send duplicates of their replies direct to the Management or to the care of Dr. S. A. Pratto, Secretary for Spanish-speaking countries, Consul for the Argentine Republic, at St. Louis, Mo.



**HONORARY VICE PRESIDENTS AMERICAN CONGRESS ON TUBERCULOSIS.
GOVERNORS OF STATES IN MEXICO.**

HON. MIGUEL CARDENAS,
Governor of Coahuila.

HON. EMILIO PIMENTEL,
Governor of Oaxaca.

HON. PEDRO L. RODRIGUEZ,
Governor of Hidalgo.

HON. ARISTEO MERCADO,
Governor of Michoacan.

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The following is a translation of a letter from the Governor of Coahuila, Mexico, the Hon. Senor Miguel Cardenas, as made by Senor S. A. Pratto, the new Spanish-speaking Secretary:

Saltillo, July 23, 1904.

Dear Sir:—In answer to your favor of the 14th inst., I assure you that I entertain great sympathy for the noble task of the Organization Committee of the International Congress on Tuberculosis, which will be held at the St. Louis Exposition in the approaching month of October. At the same time I take pleasure in thanking you for the honor conferred upon me by nominating me Honorary Vice-President of such a scientific gathering.

With reference to the appointment of delegates from the State of Coahuila, to take part in the Congress, I will consult the professors who are going to the St. Louis Exposition and select among them the representatives fitted to fill the position and I shall communicate you the appointments made.

I enclose you the portrait that you ask of me.

I remain,

Yours truly,

MIGUEL CARDENAS.

STATE OF ZACATECA, MEXICO.

The Governor of Zacateca has also sent us a duplicate of his letter, of which the following translation has been made by Senor S. A. Pratto:

Zacatecas, Sept. 27, 1904.

My Dear Sir:—Mr. Lic. Aurelio Melgarejo, whom I appointed as my representative to the International Congress on Tuberculosis, as per my communication to you on the 24th of August past, was called for a very important and official engagement in the City of Mexico. As it is absolutely necessary for Mr. Melgarejo to be in the City of Mexico, he will not have time to spare to take part in the International Congress on Tuberculosis.

I hasten to communicate the matter to you, in order that you may refer the case to the Executive Board of the Congress, expressing also to them my deepest regret for the result which has occurred at a date when there is no more time for me to make another appointment for a delegate to the Congress, in place of Mr. Melgarejo.

I beg you to express my sincere disappointment to the officers of the Congress, who, I hope, will justify the excuses I present them in this case; and I desire to assure them that it would have been a great satisfaction to me to be present at the sessions of a Congress that I consider as one of the most useful and worthy among all the Scientific Congresses who are laboring for the welfare of humanity. With best regards, I remain,

Yours very truly,

EDUARDO G. PANKHURST.

UNIVERSAL EXPOSITION, ST. LOUIS, 1904.

David R. Francis, President Universal Exposition.

W. H. Thompson, Treasurer.

Walter B. Stevens, Secretary.

Frederick W. Lehmann, Chairman Committee Board of Directors.

Howard J. Rodgers, Director of Congresses.

AMERICAN CONGRESS ON TUBERCULOSIS.

Held October 3, 4 and 5, 1904, under the Auspices of the Universal Exposition, St. Louis, 1904; of the American Congress on Tuberculosis, and of the Medico-Legal Society of New York.

HONORARY PRESIDENTS.

The American International Congress on Tuberculosis, Held at St. Louis, October 3, 4 and 5, 1904.

Dr. Wm. Bayard, Vice-President-at-Large, St. Johns, N. B.

Hon. General Russell A. Alger, Ex-Secretary of War, U. S. Senator from Michigan, Detroit, Mich.

Hon. Clark Bell, LL. D., Chairman Committee on Organization, Chairman Executive Board and President of the Medico-Legal Society, New York City.

Hon. Abram H. Dalley, Ex-Surrogate member Medico-Legal Society, Brooklyn, N. Y.

Hon. Porfirio Diaz, President of the Republic of Mexico, City of Mexico.

Hon. Moritz Ellinger, Esq., President of the Council, Ex-Coroner of New York City, Corresponding Secretary and Honorary Member of the Medico-Legal Society, New York City.

Hon. L. A. Emery, Justice Supreme Court of Maine, Honorary Member Medico-Legal Society, Prof. Medical Jurisprudence, Bowdoin College, Ellery, Maine.

Hon. W. S. Fielding, Minister of Finance, Dominion of Canada, Ottawa, Canada.

Hon. Charles G. Garrison, Justice of the Supreme Court of New Jersey, Honorary Member Medico-Legal Society, Camden, N. J.

Hon. John Hay, American Secretary of State, Honorary Member Medico-Legal Society, Washington, D. C.

Hon. Stephen B. Elkins, U. S. Senator from West Virginia, Washington, D. C.

Hon. James Loudon, President of the Unions of Toronto, Honorary Vice-President of the Congress, Toronto, Ontario.

Hon. Senor Ignacio Mariscal, Minister of Foreign Relations of Mexico, City of Mexico.

MEDICAL.

Dr. A. N. Bell, Editor Sanitarian, Ex-President American Congress on Tuberculosis, Honorary Member Medico-Legal Society, Brooklyn, N. Y.

Dr. E. J. Barrick, M. D., M. R. C. S., Eng.—L. R. C. P. & S., London and Edinburg, President American Congress on Tuberculosis, Toronto, Ontario.

W. B. Fletcher, M. D., late superintendent State Hospital for Insane, Vice-President American Congress on Tuberculosis, Indianapolis, Ind.

Hon. L. F. C. Garvin, M. D., Honorary Vice-President of the Congress, Governor of Rhode Island.

Sir William Hingston, M. D., M. P., Honorary Vice-President of the American Congress on Tuberculosis, Montreal, Canada.

Prof. Dr. Charles H. Hughes, Editor of the *Allenist* and Neurologist, Honorary President of the Medico-Legal Society, St. Louis, Mo.

Prof. Dr. Herman Kornfeld, Honorary Vice President of the Congress, Honorary Member of the Medico-Legal Society, Gleiwitz, Germany.

Hon. Miguel A. Otero, M. D., Honorary Vice-President of the Congress, Governor of New Mexico, Santa Fe, N. M.

Hon. Geo. C. Pardee, M. D., Governor of California, Honorary Vice-President of the Congress, Sacramento, Cal.

Dr. F. M. Pottenger, Vice-President of the Congress, Los Angeles, Cal.

General Presley M. Rixie, M. D., Surgeon-General U. S. Army, Washington, D. C.

General Nicolas Senn, M. D., Surgeon General of Illinois, Chicago, Illinois.

Prof. Dr. Otto Von Schroen, Royal University of Naples, Naples, Italy.

OFFICERS FOR 1903 and 1904.

President—E. J. Barrick, M. D., Toronto, Ontario.

First Vice-President—F. E. Daniel, M. D., Austin, Texas.

Second Vice-President—Ex-Chief Justice L. Bradford Prince, Santa Fe, N. M.

Third Vice-President—Dr. Charles K. Cole, Helena, Mon.

Fourth Vice-President—Dr. Sofus B. Nelson, Pullman, Wash.

Fifth Vice-President—Dr. A. M. Linn, Des Moines, Iowa.

Secretary—Samuel Bell Thomas, 32 Nassau St., New York City.

Treasurer—Clark Bell, 39 Broadway, New York City.

Secretary for the Spanish Speaking Countries—Senor S. A. Pratto, Consul for Argentine Republic, St. Louis, Mo.

COUNCIL FOR 1903 and 1904.

Hon. Moritz Ellinger, Chairman, New York City.

J. Mount Bleyer, M. D., New York City.

W. F. Drewry, M. D., Petersburg, Va.

A. P. Grinnell, M. D., Burlington, Vt.

M. K. Kassabian, M. D., Philadelphia, Pa.

H. Edwin Lewis, M. D., Burlington, Vt.

Richard J. Nunn, M. D., Savannah, Ga.

J. W. P. Smithwick, M. D., La Grange, N. C.

Samuel Bell Thomas, Esq., Secretary, 32 Nassau Street, New York City.

BOARD OF EXECUTIVE OFFICERS FOR 1903 and 1904.

E. J. Barrick, M. D., M. R. C. S., England—L. R. C. P. & S., London and Edinburg, President.

Clark Bell, Esq., LL. D., Chairman Executive Committee, Committee on Organization and Treasurer.

Hon. Moritz Ellinger, Chairman of Council.

Samuel Bell Thomas, Esq., Secretary.

The following circular letter has been sent to all the delegates of the Congress who were appointed too late to either attend or prepare contributions:

American Congress on Tuberculosis.

Office of the Chairman Committee on Organization and of the
Board of Executive Officers, 39 Broadway.

New York, November 21, 1904.

Dear Colleague:

Your appointment as delegate came too late for you to either attend the Congress or contribute to the Symposiums.

For that reason the Congress by unanimous vote extended the time for contributions to the Symposiums, on "Preventive Legislation," "Insanity and Tuberculosis" and "The Pathology and Bacteriology of Tuberculosis" to January 1, 1905, and longer at the option of the present Executive Board. You can still enroll in the Congress and contribute to its labors and the contribution go in its Bulletin and your name be placed on the roll. Please remit the membership fee, \$1.00. If you wish the Medico-Legal Journal sent you at half price, \$1.50, remit that sum and if you desire to order the Bulletin of the Congress, address the management. This also applies to all delegates no matter when appointed who have not yet enrolled. Please reply by return of post.

Very faithfully yours,

E. J. BARRICK, M. D.,
President,

CLARK BELL,
Chairman Committee on Organization.

CONSUMPTION.

ADDRESS ON OPENING OF CONGRESS, ST. LOUIS, MO.

BY N. K. FOSTER, M. D., CALIFORNIA.

Secretary California State Board of Health, Vice President
for California American Congress on Tuberculosis.

Consumption is a subject of ever increasing interest to California. With over a thousand miles of sea coast which is more or less damp, backed by large, dry valleys and foot hills where frost is almost unknown and high mountains reaching to perpetual snow, we have such a variety of climate that one can find his heart's desire. With the pure air, and flowers and fruits to perfection, life in the open air is a constant pleasure, but still nearly a sixth of our deaths are from consumption. Why is this? It surely was not so with the early pioneers, and has prevailed only since California was advertised as a mecca for consumptives. There is probably no better climate in the world than that of California, but climate alone will not cure consumption. Many who come to California are in the last stages when nothing can help them and they should stay at home among friends. In one town of 8,000 inhabitants, in 1903, there were 155 deaths, 80 were from tuberculosis, 75 of these were non-residents and 54 had been there less than 12 months, and 17 less than 30 days. This is only one of the many towns with a like record. Many come who are entirely without means to procure the necessities of life, without which even California climate will not cure consumption. These either become a public charge or soon die for the want of proper care. California does not object to sharing her excellent climate with the afflicted of other States who are in condition to be benefitted by it, but does object to the sending of those who are beyond the possibility of help, and one of

its history had been crowned with a success far beyond the highest expectations of its founders.

Dr. Daniel is the right man in the right place.

He pledged himself to the body to devote his energies, his talent and his best endeavor for its work.

He will fulfil the promise because his heart is enlisted in the cause for which it stands.

DR. J. H. KELLOGG,
First Vice-President-Elect.

Dr. J. H. Kellogg, of Michigan, who succeeds Dr. Daniel in the First Vice-Presidency, was also the unanimous choice of the retiring Executive Board for the position.

He is one of the most active, indefatigable and able workers in the whole Congress. With a large experience, an extended acquaintance, a high social and medical position, he has already laid out and will mature plans for the successful advancement of the cause for which the Congress was organized of great movement and value. He is a humanitarian and philanthropist by nature. He is in touch with the leading minds of the country, who are now considering the best and highest available means of securing suitable and effectual preventive legislation.

DR. CHARLES WOOD FASSETT,
Of St. Joseph, Mo., Second Vice-President-Elect.

Dr. Fassett was one of the most active of the workers of the body in the Congress of 1902, in which he took a prominent part. He is a medical journalist and has a large and wide acquaintance throughout the United States among medical men, and his journal will be a powerful factor in that most important of all the phases of the conflict in that campaign of education so vital, both to the medical profession and to the people at large.



OFFICERS OF THE AMERICAN CONGRESS ON TUBERCULOSIS.

DR. J. H. KELLOGG,
First Vice President. Member of Council Ex-Officio,
Battle Creek, Michigan.

DR. ANDREW C. SMITH,
Member of Council, Vice President for Oregon,
Oregon State Board of Health,
Portland, Oregon.

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N. O. NELSON, ESQ., OF ILLINOIS,
Honorary Vice President American Congress on Tuberculosis.

DR. John FERGUSON,
Of Toronto, Ontario, Third Vice-President-Elect.

Dr. Ferguson is the editor of the Toronto Lancet.

He is one of the leading physicians of the Dominion of Canada. He is a close student of the problems involved on the medical side, in the solution of which the ablest minds of all the professions are now interested, of how far legislation can be devised, adopted and enforced, which can be instrumental in the arrest of tuberculosis.

His selection was influenced by the great interest these subjects now excite in Canada and the large membership there, as well as by his own great ability as a medical man and a medical journalist.

HON. N. O. NELSON,
Of Edwardsville, Ill.

Mr. Nelson is a business man only, without any special knowledge of the disease. A humanitarian, a philanthropist, whose interest is ardently aroused in the effort to avert from the human race the terrible devastation and loss it now meets.

He is neither a physician, a lawyer nor a professional man at all.

He is one of many American gentlemen of positive character engaged in business on a large scale and in touch with leading men of his type in St. Louis, Illinois and on the Pacific Coast, on whom must fall the burden of providing ways and means for carrying on the conflict with tuberculosis.

HON. D. PAT DYER,
United States District Attorney of St. Louis, Mo.,
Fifth Vice-President-Elect.

Col. Dyer is one of the most able and eloquent lawyers of the Bar of St. Louis and of Missouri.

He represents in the management both the Government of the United States and the legal profession.

The Government of our country was entitled to recognition in the management because of the splendid aid it has rendered the cause, in advancing its labors with the Government of the various countries of both North and South America, as in its moral support in our own land. And legal profession because it is only by combining the best elements of legal acumen with medical skill and knowledge that we can hope to devise and secure the adoption of such legislation as can meet the exigences of the hour.

THE COUNCIL.

This is the governing body of the Congress. The President, the First Vice-President, the Secretary and Treasurer are ex-officio members of it.

All authority is vested in its action.

DR. P. OLIVER HANFORD,

Of Colorado Springs, was elected Chairman.

Dr. Hanford took a most active and influential part in the work of the body at the St. Louis meeting, where he went first as a delegate named by the governor.

He is the health officer of that city and surgeon-general of the State of Colorado. He has already attracted attention by his great ability, energy and success in battling with disease as health officer of his own city.

He attracted the attention of the Congress. He was made Vice-Chairman of Committee on Nominations, and he was chosen Chairman of the Council by unanimous vote.

Ardent, enthusiastic, aggressive and courageous, he will make an able officer in the next campaign.

The other members of the Council are:



DR. A. P. GRINNELL, OF NEW YORK CITY,
First Vice President Medico-Legal Society, Medico-Legal Jurist and Medical Expert,
Member of Council American Congress on Tuberculosis.

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DR. J. MOUNT BLEYER,
Of New York,

Who has been one of the Vice-Presidents-at-Large of the Congress since its organization in 1900, and is re-elected a member of the Council.

He is in the front rank in medical scientific research in the Domain Light and Electricity, and was elected Second Vice-President of the Medico-Legal Society at the November annual meeting in New York.

DR. N. K. FOSTER,
Vice-President from California.

Dr. N. K. Foster has been one of the staunch friends of the Congress and the cause for years. He is Secretary of the State Board of Health of that State. He was named by Gov. Pardee as a delegate and attended the session and took an active part in its work.

He is one of the most earnest and enthusiastic workers in this crusade against tuberculosis on the Pacific Slope, and stands high in the confidence of the medical profession.

DR. A. P. GRINNELL,
Of Burlington, Vt.,

Vice-President-at-Large of the Congress and First Vice-President of the Medico-Legal Society, has been a member of the Council since its organization, and one of the ablest men of the medical profession in the State of Vermont.

DR. DENSLOW LEWIS.

Dr. Denslow Lewis, of Chicago, attended the St. Louis Congress and was an active force and power in its success. He encountered great opposition from its enemies

in Illinois, who were active and energetic. He stand high in his profession and threw into his work zeal and energy.

As a member of the Council of the coming Congress, he will be a strong and jealous worker and will help to place Illinois in line.

The principal opponent of the Congress in his State was the Secretary of the State Board of Health, who preferred that the work be managed by medical men alone. The efforts of this office and his friends did not meet with the success they had expected, and there is now no considerable number of men who adhere to their views. Deserted by their President their banner is still said to be uplifted by a valiant knight of their straggling army, who announced from Atlanta that he will, like Fallstaff, marshal his recruits and his forces for an advance movement at Washington in 1905.

We shall do all in our power to help him on if his effort has the least prospect of success. He has had hitherto the cold shoulder and not one sympathetic shake from the medical men who unhorsed him on the skirmish line at the Baltimore Conference, where his party assembled in force. The Illinois Secretary of the Health Board stands by him and he may yet raise a regiment for good service in this war.

He is chairman of the Committee on the Action of Venereal Diseases to Tuberculosis, and is perhaps the best equipped medical man in the United States to have charge of that branch of the work.

DR. H. EDWIN LEWIS,
Of Burlington, Vt.,

Dr. Lewis organized and conducted the Museum of the Congress of 1902 in New York, and received a vote of thanks for his service from that body and was elected then one of the Vice-Presidents-at-Large.



MATTHEW M. SMITH, M. D., AUSTIN, TEXAS,
Member Committee Censorship of Papers,
Secretary-elect American International Congress on Tuberculosis, St. Louis, 1904,
Editor Texas Medical News.

He is the Editor of the Vermont Medical Monthly, and is active in the anti-tuberculosis work of that State.

DR. W. F. MORROW,

Of Kansas City, Vice-President-at-Large of the Congress.

Dr. Morrow is Secretary of the State Board of Health of the State of Missouri, and was one of the most active, reliable and efficient aids of the Management in organizing and conducting the work of the Congress of 1904.

He will make an active and valuable man in the new management.

DR. ANDREW C. SMITH,

Of Portland, Oregon, Vice-President for Oregon.

Dr. Andrew C. Smith is one of the Vice-Presidents for the State of Oregon and is President of the States Board of Health of that State.

He takes a deep interest in the work and his letter of regret in the September number expresses his great disappointment at not being present at the session.

DR. EDMOND SOUCHON,

Vice-President for Louisiana.

Dr. Edmond Souchon, of New Orleans, is one of the foremost physicians of his State. He attended the Congress as a delegate appointed by the Governor of his State. is perhaps one of the ablest sanitarians of the South-west and is a very high authority.

He is President of the State Board of Health of Louisiana, and will make a valuable addition to the Council.

DR. M. M. SMITH,

Of Austin, Texas, Secretary-Elect.

Dr. M. M. Smith is the Editor of the Texas Medical News, and is one of the ablest young men of his State or of our country as a medical journalist.

He stands high as a physician, and he enlisted heart and soul in the war against tuberculosis in the Congress of 1902. He was made a member of the Censorship Committee by that Congress.

He was of the greatest service at the session at St. Louis, acting as secretary in the absence of that officer, and his spirited and snap shot report of the session of that Congress, which appeared in his November issue, illustrates not only his distinguished ability, but his great aptness and reliability as a medical journalist. It was from his own notes that he wrote this admirable sketch of the three days' session of the Congress and got it out in his November number.

Dr. Smith will be of incalculable value to the newly elected President. He has been of great value to the present Board in completing its labors, which he is now aiding in that strong and graceful way, so characteristic of himself. He is a careful and diligent student, an easy and graceful speaker, a strong and forcible writer and thinker, and the Congress could not in the United States have found a man more splendidly endowed and equipped for its work than in selecting him.

THE TREASURER.

This officer was selected at the Congress with his insistence that it should be temporary, nor has his successor yet been selected by the present Board. The present incumbent consented to act only until some one could be found to take it.

The Congress is in debt, and the present incumbent has advanced considerable sums to meet expenditures and carry on its work, which should be provided for and the work of the St. Louis Congress and the getting out of its Bulletin may demand his assistance.

But it is expected that some suitable man can be found for this office, now very shortly, or during the first or second month of the coming year at the latest.

This board of officers is very largely composed of members of the Medico-Legal Society.

It is to the Medico Legal Society that the Congress owes not only its existence, but its success. Thus far the Medico-Legal Society has met and sat with it in joint session.

That has been in the past as an ally, an aid and a protection.

The labors of the Medico-Legal Society outside of its interest in and its relation to the Congress on Tuberculosis is large and broad enough to engage the whole and the serious attention of its President and officers.

It was because of this that the President of the Medico-Legal Society withdrew from active work in the Congress.

He was justly chargeable with neglect of duty to the Medico-Legal Society.

The work of both was too great, too exacting for any one man, and it was because of this that the Editor of the Medico-Legal Journal insisted upon retiring from further active duty beyond the closing up of the Congress of 1904 at St. Louis and its labors.

His interest in the cause has not lessened, nor his zeal for its success; it has rather increased than diminished, but this came when his appeal for help from others could no longer be deferred.

THE VICE-PRESIDENTS-AT-LARGE.

There has been important changes in the composition of these men. Of those recently chosen one of the most prominent is

DR. C. C. JONES,

Of East Lake, Alabama, Vice-President for that State and
President of the State Medical Association of Alabama.

Dr. Jones was appointed a delegate by the Governor of Alabama and attended the St. Louis Convention for the first time, taking an active part in the work.

He stands high in his profession and takes a deep interest in the work and will give his best energies to the advancement of the cause in the seaboard States.

He was offered a seat in the Council, but preferred not to assume its duties, while asserting his great interest in the work.

DR. MIHRAN K. KASSABAIN,

Of Philadelphia,

Who served on the Council, was made a Vice-President-at-Large.

SAMUEL BELL THOMAS, ESQ.,

The late Secretary, has been appointed one of the Vice-Presidents-at-Large, retiring from the office of Secretary.

DR. A. H. OHMAN DUMESTINE,

Editor of the St. Louis Medical and Surgical Journal
of St. Louis.

An accomplished Medical Journalist, has been elected Vice-President-at-Large, vice Dr. C. M. Nicholson, of St. Louis.

Dr. Dumestine takes a deep interest in the work and will add to the strength of the Board of Vice-Presidents-at-Large.



DR. W. H. MOOREHOUSE, LONDON, ONTARIO,
Vice President-at-Large American International Congress on Tuberculosis.



DR. A. M. LINN, OF IOWA,
Fifth Vice President American Congress on Tuberculosis.

**VICE PRESIDENTS AMERICAN CONGRESS ON
TUBERCULOSIS, 1904.**

JUDGE L. BRADFORD PRINCE,

Late Chief Justice of the Supreme Court of New Mexico and Second Vice-President of the Congress of 1903 and 1904, is chosen a Vice-President-at-Large.

Dr. Charles K. Cole, of Helena, late Third Vice-President, and Dr. Sofus B. Nelson, of Pullman, Washington, Third and Fourth Vice-Presidents of the Congress of 1904, are named as Vice-Presidents from their States.

DR. A. M. LINN,

Late Fifth Vice-President,

Is elected one of the Vice-Presidents-at-Large.

The resume of the remaining officers of the Board of Vice-Presidents-at-Large will be continued in the next Number, as well as the completion of the lists.

The Executive Board do not desire to name officers without their consent, not to remove officers who have consented to serve and who have not yet expressed their wishes.

It involves a correspondence and the results will be announced in our next Journal if not before that.

THE CONFLICT WITH TUBERCULOSIS.

The Medical Record of November 26, 1904, announces that the Board of Directors of the National Association, for the Prevention of Tuberculosis, held a meeting in New York City the preceding week and discussed a plan of organization for the new body at its first annual meeting, which they decided to hold in the City of Washington, in May, 1905. That they decided to appoint an advisory committee of prominent physicians and laymen throughout the United States.

They also decided to appeal to philanthropic people throughout the country for contributions.

The Association announces that it wishes to have it understood that not only physicians, but all laymen should be interested in the movement.

And the Medical Record says: "That the help of municipal bodies throughout the country will be sought."

"A change seems to have come over the spirit of the dream" of the wise and select handful of medical gentlemen who organized this body. They seem to have discovered that a purely medical body, organized by medical men alone, along so-called medical lines and limited to medical men only, officered and controlled by medical men only, is not quite the thing for a conflict that concerns one-fifth of the population of our country.

The American International Congress, at St. Louis, has helped to educate the directors of this movement to a recognition of the fact that a conflict in the interest of the people not only of our country, but of all the countries on the globe, in a life and death struggle where under existing conditions twenty per cent.

of the entire population have been or are certain to be stricken with consumption is a question, a little bit too large for a small coterie, and medical clique of two professors in one college, two superintendents of private sanatoriums, completely identified with their own particular institutions, and one or two gentlemen whom they select, because they are supposed to be under their influence and control.

The medical profession has an important role in this conflict. The advice, the aid and the active energetic assistance of the best brain of the profession is needed.

There are medical questions involved in the problem of preventive legislation, and at every step to be taken in such a conflict demanding the highest scientific aid of the Pathologist, the Bacteriologist, the ablest talent in the laboratory and the best experiences of the physician in general practice.

This profession should be the medical advisers of the campaign on the purely medical questions involved. This profession is and must be one of the most important factors in combining the elements and factors in organizing an army to resist such an invasion as now threatens civilization.

This profession is now most apparently interested in this war because every soldier of the great army of victims, after he is stricken with death must fall under its care, and the doctor realizes the terrible results more keenly, because it comes, into his life.

He stands by the death bed constantly and by the side of the open grave of the victims. But we believe that the most serious obstacle to our success is that most dangerous and most insidious and most despicable of all the medical men who object.

The medical objector will not fight himself, nor will he permit others to fight.

He hangs around the outskirts of the advancing columns of the army to dissuade the soldiers. He assails the motives of the generals and whispers disaster into the ears of the officers. He slanders and calumniates the leaders and conspires with others to intercept the allies and to discourage the friends, as a rule, he is as he has been aptly called:

"The Medical Pharisee." It is said of him:

"There is no room in the world of Science of today for the Medical Pharisee or Sadducee. He who thinks of another 'I am holier than Thou' should be put out of the Temple. Gifts, genius and intellect and not the width of the Phylacteries, determine merit in Science, as it did in the time of Christ."—Anonymous.

A very few such men do great harm. They are like pigs under a gate, the shrill scream of one will make noise enough for a dozen. He is really more dangerous than the medical crank.

One of this latter class who refused admission to the American International Congress, filled half a dozen medical journals with his lamentations, and unable to break into the body or take part in its deliberations, came to speak outside its Convention Hall on subjects concerning which, he had no practical or experimental knowledge, based on his own experiences; but who by dint of study of the writings of abler men of his profession has become confessedly one of the ablest compilers of today, and who out of more than two hundred and fifty essays he has written in the last three years has never yet, as those who have studied and followed him assert, advanced one original idea of his own; nor has he hardly ever given credit to those whose ideas he has thus compiled.

DR. A. N. BELL AND STAMINA.

Dr. A. N. Bell, the Nestor of American sanitarians, Honorary President of the American International Congress on Tuberculosis and ex-President for 1900 and 1901 of that body, now in his 84th year of age, is still in vigorous health and has only recently laid down his editorial work, not from age or infirmity, but for business reasons.

He is hale, hearty and one of the finest specimens of stamina in our land. He complains that his absence from the Congress at St. Louis was assigned to his condition of health and called on the Editor of this Journal in one of the worst of our December winter storms to explain that his only reason for not going to St. Louis was that he is very deaf and can't hear what transpires. He is otherwise perfectly well.

He has been one of the most active of the members of the body and is in vigorous health. His paper contributed to the Congress, written in September, illustrates the vigor of his intellect and strength, but he felt disinclined to attend the session when he could not have heard a word that was said.

CHRISTIAN SCIENCE AND FAITH HEALING.

The sermon of Dr. Gore, Bishop of Worcester, contains some thoughts from the eminent prelate, which will greatly interest medical men, as well as those whom President Lincoln used to call "The plain people." We make some extracts from the sermon of Bishop Gore:

In the matter of healing he wished to make an appeal to those who, as physicians and as nurses, were occupied about the bedside of those seriously sick and dying, to allow its proper place to the ministry of religion which had, he fancied, in recent years been almost crowded out from any real or intelligible part in ministering by the bedside of the dying. The ministry of religion was not summoned, at any rate very often was not allowed to appear, at the bedside of the dying until, for all intelligent and intelligible purposes, it was too late, because the patient was no longer capable of entertaining serious thoughts. He earnestly asked those who sharing the responsibility in the control of sick rooms to endeavor to procure some reform in this matter. There had been a great tendency to deal with sickness in its final and serious stages as if a man were merely a body without a spirit and Christian society had been wandering to extravagances, for so they often were, in the way of faith-healing as a reaction and protest against an undue separation of what was legitimate and right. He believed with the most profound conviction that faith with its quiet, calming power—the consciousness of peace with God, the expectation of Divine help, the faith in the power of prayer,—he believed that these things had an effect far greater than merely material science had been accustomed to recognize in producing or maintaining a healthy body or physical life. He believed that faith-healing had at the bottom of it a real and legitimate witness against the one-sided materialism with which we had been treating sickness; and so he earnestly asked of those who were responsible for the control of the sick-bed to see to it that while the physician was allowed his own proper supremacy of direction, the minister of religion was allowed his own proper place in the ministry of prayer, and the sacraments, and the word of God.

The influence of the mind upon the body, and especially on disease, is recognized by all advanced thinkers among medical men.

Prof. C. H. Hughes, of St. Louis, in his admirable address at the Congress on Tuberculosis, pointed out the importance of "Hope" to the suffering patient, and dwelt on its great healing influence in admonishing medical men to utilize it at the bedside of the sick.

Dr. M. M. Smith, the Secretary-elect of the American International Congress on Tuberculosis, editor of Texas Medical News, in his address at the Congress, touches on the duties of physicians to their patients on a different phase of this subject. He said, in speaking of the tuberculosis patient:

"He believed one of the most important things to be considered, was the education of the physicians all over the country, so that they would be able to diagnose a case at its very beginning; so that the patient could receive the best treatment, and the members of the family could be notified and prevent the infection of others.

"He believed one of the greatest means of infection was the neglect of the family physician in diagnosing his case early and speaking plainly to the patient, as well as the family, and urging them to combine their efforts not only to prevent the disease in others, but to successfully restore to health the patient himself."

Bishop Gore in the same sermon, after alluding to the influence of the clergy in the olden time, said:

That at one time the clergy, being the only learned men, controlled politics and medicine as well as the religious exercises of the public, and that increasing knowledge and specialization had altered all this, Dr. Gore went on to plead that the health of the body depended on the recognition of specialism. It was to be recognized, he said, that those who were outside the special departments of knowledge were obliged to accept the knowledge in which they themselves could not participate on the authority of those who knew. If the physician who knew were to tell him who did not know what he observed, what he suspected, and what he thought, it would convey to him either no information at all or else a false information. It would alarm him, because he would misinterpret it, for, as a matter of fact, the exact state of things as perceived by a scientific man was only intelligible to one who had that context of general knowledge which the terms and phraseology involved. Each in his department should recognize the place of others in that which went to make up the various and manifold well-being of human society.

SANATORIUM TREATMENT OF TUBERCULOSIS IN SWITZERLAND.

The Swiss correspondent of the London Lancet reports:

Dr. Staub, the medical superintendent of the Zurich Sanatorium at Wald for tuberculous patients of the poorer class, has just published his fifth annual report dealing with the events of the year 1903. 284 patients were admitted and 266 were discharged, of whom 240 were suffering from pulmonary tuberculosis. He gives a resume of 219 patients who stayed more than one month at the sanatorium. The average duration of their stay was 125 days, a slight increase as compared with the previous year. 41 per cent. were in the first stage, 23 per cent. were in the second stage, and 36 per cent. were in the third stage. 81 per cent. of all the patients were discharged in an improved condition. Dr. Staub makes an interesting statement as to definite results obtained. They compare very favorably with those of German sanatoriums situated in the lowlands and supply an additional proof that the factor of elevation above the sea level must not be underrated in the treatment of pulmonary tuberculosis. Investigations two and three years after discharge proved that 92.6 per cent. of the patients in the first stage, 75.3 per cent. of those in the second stage, and 42.4 per cent. of those in the third stage were still in full work, having been able to resume their previous occupations. These data speak for themselves and Dr. Staub is so far encouraged that he does not wish to shut the doors of the sanatorium to suitable cases even in the third stage. Even of the patients discharged in 1899 the reports in 1903 were favorable. According to the more or less advanced stage of the disease on admission 90 per cent., 45 per cent., and 7.3 per cent. respectively, were fit for work. At a sanatorium the majority of patients increase in weight. An investigation proved that from 70 to 80 per cent. of the patients treated at Wald still kept up their extra weight for from two to five years after discharge.

HUMAN AND BOVINE TUBERCULOSIS.

The controversies of the Bacteriologists continue:

At the Second Latin American Medical Congress, held at Buenos Ayres, in April, 1904, Professor Lignieres, of Buenos Ayres, read a paper on this subject, in which he said:

That the true tuberculosis found in man and the domestic animals were due to bacilli which all belonged to the same group, the same species as the Koch bacillus which, however, came under the general law of variation of type. So that besides possible varieties still undetermined they knew now the following different types (a) bovine tuberculous bacillus, which was only a variety of the human type and vice versa; and (b) avine and piscine bacilli which were of distinct races respectively and which differed from the human and bovine bacilli. Now that they knew, however exceptional it might be, that the bovine tuberculous bacillus could infect man especially in infancy, it would be a grave mistake to abandon the campaign so wisely initiated against the bovine tuberculosis. On the contrary, it was necessary to follow it up, to extend it, and to complete it, against the other animal tuberculosis, not only to prevent a possible contagion to man, but to combat particularly bovine tuberculosis which tended to increase alarmingly amongst cattle.—*London Lancet* of November 19, 1904.

The contribution of Prof. Otto von Shroen to the American International Congress on Tuberculosis, at St. Louis, a translation of which is commenced in this number, must attract the earnest attention of American students to a hitherto unemployed field in laboratory work. It is translated by Dr. Moritz Ellinger, the Corresponding Secretary of the Medico-Legal Society, who has held that position for more than a quarter of a century, and who was made an Honorary President of that Congress at the St. Louis session. •

The English translation will be published in the Bulletin of that Congress. The paper was illustrated by 64 illustrations of the laboratory work upon it. These were exhibited at the St. Louis Congress and excited a very great interest.

The views of Koch and of Prof. Lignieres are strongly antagonized on both sides of the Atlantic, but we hope

that some reliable solution will be reached by the great students and explorers in the near future.

The question raised by Prof Von Shroen must arouse deep interest in every laboratory. Advance sheets of the paper will be sent to our Pathologists and Bacteriologists in America for criticism, and the Journal is contemplating the publication of Von Shroen's work in English at his suggestion.

THE SOUTHERN CALIFORNIA ANTI TUBERCULAR LEAGUE.

BY DR. CHAS. C. BROWNING, HIGHLAND, CAL.

This League effected a temporary organization at the meeting of the Southern California Medical Society, December 4, 1902. Permanent organization was completed at the following meeting, June 2, 1903.

Dr. Browning forwarded a report as to the work of this body, and in September he sent the following letter and report:

Clark Bell, Esq., LL. D., New York, N. Y.

Highland, Cal., September 23, 1904.

Dear Sir:—In compliance with your request when I met you in New York, I am sending herewith a report of the work of the Southern California Anti-Tuberculosis League. I very much regret that it will probably be impossible for me to attend the meeting of the Congress, but I think Dr. Pottenger will be there.

Yours truly,

CHAS. C. BROWNING,

REPORT.

Highland, Cal., September 23, 1904.

The Southern California Anti-Tuberculosis League effected a temporary organization at the meeting of the Southern California Medical Society, December 4, 1902. Permanent organization was completed at the following meeting June 2, 1903. A board of directors, consisting of eleven members of the Southern California Medical Society and four lawyers, was elected, with the following officers: Dr. F. M. Pattenger, Manravia, President; Dr. Rose T. Bullard, Los Angeles, Secretary; Mr. W. C. Patterson, Los Angeles, Treasurer.

The following from the annual report of June 1, 1904, expresses briefly and clearly a summary of the work accomplished. "The League has a membership of 79. During the year it held two public meetings, and members of the board of directors addressed several other public gatherings on the prevention of tuberculosis.

Two pamphlets, "Things the Laity Should Know About Consumption" and "Precautionary Suggestions for Those Ill of Consumption," have been published at an expense of \$7.00 per thousand for the former, and \$1.00 per thousand for the latter. Arrangements have been made to distribute these through the public schools, believing that in this way nearly every family will be reached. The supervisors of San Bernardino, Riverside, Orange and Los Angeles counties and the Council of the City of Los Angeles have been interested and have kindly consented to pay for the publication of sufficient number to be distributed to their various constituents. Thus the League has provided for the distribution of 89,000 leaflets in Southern California.

CHAS. C. BROWNING,

HONORARY VICE PRESIDENTS OF MEXICAN
STATES.

STATE OF CHIHUAHUA.

The Hon. Senor Luis Terrazast, Governor of the State of Chihuahua, on July 27, 1904, in reply to the circular letter from our Management forwarded to him by the Secretary to the Spanish-speaking Countries sent a formal reply, in which he said:

I accept the honorable and unmerited distinction with recognition and gratitude. I will arrange, as you have suggested to me, for the appointment in due course of one or more medical delegates to represent this State at the next session of the Congress, in which I will take part with pleasure if my duties and official affairs allow me.

Wishing you the best success in your noble and philanthropic campaign against the terrible infirmity of tuberculosis and with a disposition to co-operate to the best of my power toward so humanitarian an object, I remain, with the greatest consideration,

Yours truly,

LUIS TERRAZAST.

STATE OF MICHOACAN.

The Hon. Senor Aristeo Mercado, Governor of the State of Michoacan, in reply to the letter advising him of his appointment as Honorary Vice President of the American International Congress on Tuberculosis, under date of July 27, 1904, in accepting this distinction, writes in a letter addressed to the Congress through its Secretary, as follows:

Having received the honorable distinction of such appointment and the matter relating to the Association that proposes to accomplish such humanitarian purposes, it is my duty to not decline that honor, even though, by reason of the necessities of the service, I will not be able to take part in the sessions that are to take place as you state to me at St. Louis, Mo., on the 3d, 4th and 5th of the next coming month of October.

It will be the greatest satisfaction to me to arrange that a professional representative from the State of Michoacan take part in such meeting, and for such purpose I will immediately apply to the persons who propose to visit the Exposition, in compliance with the suggestions you have made me.

I forward to you the photograph you desire, but I do so only in order not to interfere with the proposition you have to reproduce in the official Bulletin of the Congress the portrait of each of the Vice-Presidents of that humanitarian association.

Through your worthy intermediation, I convey my thanks to the Congress, and take pleasure in subscribing myself,

Yours truly,

ARISTEO MERCADO.

STATE OF SAN LUIS POTOSI.

The Hon. Senor Blas Escontria, Governor of the State of San Luis Potosi, under date of July 25, 1904, wrote the Management of the Congress through its Secretary for the Spanish-speaking Countries, acknowledging the receipt of his appointment as Honorary Vice President of the American International Congress on Tuberculosis, and said:

I appreciate highly this honorable and distinguished appointment, and I would thank you to so state to the Board and your worthy chairman, Mr. Clark Bell, and inform him at the same time that I accept the appointment with thanks, and that at the sessions to be held as you indicate on the 3rd, 4th and 5th of the month of October of the present year, Dr. Tregarlo Barroeta, appointed as commissioner by this State for the work of the Exposition, will take part as the official representative, as you suggested to me. I am,

Your truly,

BLAS ESCONTRIA.

STATE OF OAXACO.

Hon. Senor Emilio Pimentel, Governor of the State of Oaxaca, wrote the Management of the Congress through its Secretary for the Spanish-speaking Countries, under date of July 28, 1904, as follows:

Sympathizing as in fact I do with the efforts made by the physicians and hygienists to combat the terrible infirmity of tuberculosis I thankfully accept the appointment of Honorary Vice-President of the Congress which is to be opened at the Universal Exposition,

St. Louis, Mo., on the third of the next coming month of October, regretting only my inability to take part at its meetings, inasmuch as the work of the public office held by me in this Federal State will not permit me to do so.

Pray present my thanks to Mr. Clark Bell, Chairman of the Committee on Organization and of the Board of Directors; and as to the appointment of delegates on the part of this State, I will take care to report as to such professional men who are disposed to visit the Exposition voluntarily in order to take advantage of this circumstance in the manner you suggested to me in your letter referred to.

I send you the photograph you request, and remain,

Yours truly,

E. PIMENTEL.



VICE PRESIDENTS AND PROMINENT MEMBERS OF THE AMERICAN
CONGRESS ON TUBERCULOSIS.

DR. EDWARD LICEAGA,
City of Mexico.

DR. LOUIS LABAYLE,
Leon, Nicaragua.

DR. LOUIS LEROY,
Nashville, Tenn.

DR. C. F. ULRICH,
Wheeling, West Virginia.

DR. T. VIRGIL HUBBARD,
Atlanta, Ga.

TRANSACTIONS.

MEETING OF THE AMERICAN INTERNATIONAL CONGRESS ON TUBERCULOSIS, HELD UNDER THE AUSPICES OF THE UNIVERSAL EXPOSITION OF ST. LOUIS, AND THE MEDICO-LEGAL SOCIETY OF NEW YORK.

FIRST DAY'S SESSION, MONDAY, OCTOBER 3, 1904.

In the Chair:—For the American Congress of Tuberculosis, E. J. Barrick, M. D., President, of Toronto, Ont.

Supported by Prof. Chas. H. Hughes, M. D., Honorary President of the Congress at St. Louis; Hon. F. L. C. Garvin, Governor of the State of Rhode Island, and Dr. Thos. G. Palamo, Delegate from the Government of Salvador.

For the Medico-Legal Society, Clark Bell, Esq., President, of New York.

Supported by Hon. Senor Dr. David Matta, Delegate from the Peruvian Government; Dr. F. E. Daniel, M. D., President State Medical Association of Texas, Austin, and Hon. D. P. Dyer, United States District Attorney, St. Louis.

In Joint Session.

The meeting was called to order at 10 o'clock a. m., at Convention Hall, by the President of the Association, Dr. E. J. Barrick, of Toronto, Canada. After a few preliminary remarks he introduced Clark Bell, Esq., New York City, President of the Medico-Legal Society and Chairman of the Committee on Organization and of the Executive Board of the Association, who invited a number of distinguished delegates from Foreign Countries and different States of the Union, to occupy seats upon the rostrum. The first address of welcome announced to have been delivered by the Hon. D. R. Francis, President of the Exposition, owing to the death of a near relative he could not be present. President Bell announced the receipt of a special message from President Francis, stating that owing to the sudden death of a near relative he could not be present at the opening ceremonies.

Col. D. Pat Dyer, United States District Attorney, was introduced by President Bell, to extend a welcome to the members and Delegates on behalf of the United States Government, which he did in the most eloquent manner, saying among other things that the buildings of this great Exposition would be torn down, but that the good resulting from such an Exposition and such meetings would go on and on and result in untold good to the country. He referred to the fact that this Government had the power to spend money and to sacrifice lives for its protection against the invasion of outside armies and for the same reason he believed it should be a part of its duties to spend money to prevent the spread of a disease that was destroying thousands of its inhabitants. Col. Dyer also referred to the active part taken by John Hay, Secretary of State of the United States, when he gave Governmental recognition to this Congress by extending an official invitation through his department to all of the nations of the Western Hemisphere, and urge them to act officially and send delegates to this convention. After speaking at some length along these lines, Col. Dyer closed by wishing the Congress great success in its humane work.

Prof. Dr. Chas. H. Hughes, of St. Louis, Honorary President of the Congress, was next introduced by President Bell and made an eloquent address.

President Bell said in presenting Prof. Hughes: The affliction and bereavement that had fallen upon the Hon. D. R. Francis, President of the Exposition, in the loss of his near relative, had not only touched our hearts, but had deprived the Congress of the pleasure it had anticipated in listening to the Honorary President of the Exposition and under whose auspices we had met. That Exposition which will be placed in the history of such achievements, as by far the best that had crowned human endeavor up to the present hour.

"The grand part which President Francis had taken and borne with such eminent and signal ability and success made his bereavement all the more toching.

"But it was with a peculiar pleasure and pride that he should ask to fill the place the Manageemnt had assigned to President Francis with one of the most distinguished names of the men who had been so long identified and associated with the history of St. Louis, and who had for more than a quarter of a century been identified with the progress, the growth and the glory of that city which had created the wondrous Exposition, under whose auspices this Congress now meets.

"During more than thirty years Prof. Hughes had worked by his side, hand in hand, carrying forward the branches of scientific work that had resulted in this Congress, into which the Professor had thrown all his commanding ability and his splendid energy.

"It was eminently fit that the place of President Francis in the opening ceremonies of this Congress, where delegates from the Governments of the Western Hemisphere had responded to the invitations from the Government of the United States sent, as had been so eloquently stated by Col. Dyer should be thus filled. From the earliest history of this Congress there has been no man who has stood more steadfastly in the work than he, and none more worthy or fit than this Honorary President, to speak for St. Louis, for the Exposition or for the grand work and mission of this Congress in arresting the spread of the disease we meet today to consider, than Prof. Charles H. Huges, of St. Louis."

Prof. Charles H. Hughes responded:

He welcomed the Congress to the City of St. Louis, and wished them God speed in their great work. He referred to the great death rate of the disease, and the feeble efforts made as a rule to resist the spread of such a preventable disease. He urged the adoption of resolutions by this Association, demanding the passage of laws for the protection of the public against consumption in its various forms.

Hon. L. F. C. Garvin, Governor of Rhode Island, Honorary President of the Congress, was then introduced by President Bell and made an address, who said in introducing Gov. Garvin:

"That no State in the American Union had exhibited more activity and energy in the present crusade against Tuberculosis than Rhode Island. That while so many of the Executives of American States had helped forward, with earnest sympathy and a strong and hearty co-operation none had given the Management of the Congress splendid and sympathetic support than the smallest of them all.

"Rhode Island had seemed to the founders and promoters of this Congress, as has been so often said of her, that in our work she has been 'like a six-pence among six cents, the smallest, the brightest and worth all the rest.'

"The Governor of Rhode Island is a medical man and is leading a splendid work in his State, along safe and conservative lines. He is one of that class of Executives of American States like Gov. Hon. Miguel A. Otero, of New Mexico, Hon. Geo. C. Pardee, of California, have been doing great and good work in their several States and Territories, which will be a credit to our cause.

Gov. Garvin comes to this Congress surrounded by his staff and the delegates from his State, who are co-operating with him at home to help our endeavor, and I feel you will all welcome this voice from the shore of the Atlantic Ocean to be mingled with those from the Pacific, in furtherance of a cause as wide as the Continent and as profound and deep as either of the oceans which border our beloved country.

"It is fit and suggestive that the Governor selected for the speaker here at this opening should be a member of that great profession, which is so largely represented on the floor of this Congress and whom I may say has been made an Honorary President of the body. I present Gov. Garvin, of Rhode Island." Gov. Garvin in responding spoke among other things of the prevalence of the disease and referred to the active work now being done in his State, not only for the treatment and insulation of the afflicted, by the recent building of a State sanitarium for such cases, but active efforts that were being made all over the State to prevent the spread of the disease, and in closing referred in an eloquent manner to the necessity for all States as well as the National Government to take active step in the care and treatment of their tubercular people.

Dr. A. N. Bell, of Brooklyn, N. Y., ex-President of the body, Honorary President who was announced on the program for an opening address, the oldest sanitarian in the Association, was unable to be present, owing to his feebleness, now being 84 years of age. President Bell said: that age and infirmity had prevented the presence of Honorary President Dr. A. N. Bell, the Nestor of American sanitarians, for more than a quarter of a century editor of "The Sanitarian," and the ablest sanitarian and highest authority of our day had sent his paper to be read by Dr. F. E. Daniel, but as Dr. Daniel had not yet reached the hall that he would ask one of the prominent sanitarians of today, Dr. J. H. Kellogg, of Battle Creek, Mich., to read it. Dr. J. H. Kellogg read the paper entitled "Stamina," which was received with great favor, and will appear in our Transactions.

Hon. Clark Bell, of New York, who was announced for an address of welcome, was next introduced by Dr. E. J. Barrick, President, who said:

"The opening of this Congress at this time would be incomplete, I may say impossible, without presenting the gentleman, who as President of the Medico-Legal Society had originated it and had organized the first American Congress on Tuberculosis, in 1900, which was held in the City of New York in February, 22, 1900, under the auspices of the Medico-Legal Society of New York which then, as today, sat in joint session, under the presidency of Dr. A. N. Bell, of Brooklyn, now an Honorary member of this body and to whose address we have just listened.

"Dr. Clark Bell accepted the office of Secretary and Treasurer of the American Congress of 1900 and the Chairmanship of its Executive Committee, and opened the colossal work of creating an organization which should embrace all the Countries of the Continents of North and South America.

"The Congress of 1891, which followed, was a very remarkable success and it laid securely the foundations of this body. Its session was held also in the City of New York and it aroused interest in more than half of the States and Territories of the American Union, in the Central and South American States, in Canada and the Republic of Mexico, and it was also held under the auspices of and in joint session with the Medico-Legal Society and extended its lines of influence in both the Continents of North and South America and upon the Continent of Europe.

"Mr. Bell held the same official position in the organization and creation of the American Congress on Tuberculosis of 1902, which was held also in Joint Session with the Medico-Legal Society, of which Mr. Bell was still the President. The Congress attracted the attention of the world of science. The Dominion of Canada was very largely interested in and identified with the work, the Governors of the American States, and the Lieutenant Governors of the Candas accepted positions as Honorary Vice-Presidents and the Session of that body held at New York in June, 1902, was a splendid success.

"Mr. Bell then retiring from official connection with the body was presented with a silver cup as a token of the esteem and regard in which he had been held by the medical profession and a board of officers was elected with his approval, to whom was entrusted the work of the body.

"I had the honor of an election as Vice-President of that body, and was the only Vice-President thus elected who had been identified with the organization. Some of the officials thus elected took no steps to go forward with the work or to hold any Congress in 1903, and favored the abandonment of the work on the lines on which it had been founded, and decided to organize a new organization on strictly medical lines and to confine its officials to medical men only, and to exclude from the Management all professions other than medical; and as the body then had as Honorary Vice-Presidents a large number of Governors of States and public officials who were not medical men, this was not possible without the formation of another organization. So that a new organization was formed by the majority of the officers of the Congress, in a name similar to the name of this body, with the same officers, which it was intended to represent the powers and functions of this organization and eliminate from its management all except medical men.

"To this proceeding I refused my assent and declined to be identified with any such action and was of the opinion which I had freely expressed on the floor of the Congress of 1902, that such a body should be open and free to all the profession and to the intelligent laity on a motion made by Mr. Bell, that the membership of the Congress should be open to all professions and to students of sanitary science of all or no profession, which was unanimously adopted.

"This dissension prevented the holding of the usual Congress for the year 1903, when no papers were read, but which met at the Press Club, in the City of New York, on June 10, 1903, composed of members of the Congress who had paid their membership fee and their proxies, which was attended by more than a majority of the members of the Congress, represented either in person or by proxy, where the Board of Officers, who have conducted this Congress were unanimously elected, and where the officers who had been previously elected in 1902 were retired, with the single exception of myself, and I was honored with the Presidency.

"Mr. Bell was thus recalled from his retirement and asked to again assume the Chairmanship of the Executive Board.

"The Congress itself, by unanimous action resolved that it should meet at St. Louis in 1904.

"Mr. Bell has since his acceptance of that honor devoted his whole time, influence and energies to the success of this Congress, and has thus far been the principal contributor to its financial support, for which this Congress should make provision. He had also advanced for the Congress of 1902 large sums, for which no provision had been made and to which contributions had been made as for the present Congress by individuals in small sums and which should now be refunded, as Mr. Bell has directed me to state that the time has now come when the pressure of his professional duties and his business interests demand that he retire from the active labors of this body.

"I take pleasure in introducing, Ladies and Gentlemen, Delegates and Members, Hon. Clark Bell, of New York, the founder of the American Congress on Tuberculosis, Chairman of the Board of Executive Officers and Chairman appointed by the Management of the Universal Exposition as a Committee of Organization and now President of the Medico-Legal Society of New York, who is presiding with me in Joint Session over the deliberations of this body:

Hon. Clark Bell, of New York, thus introduced by Dr. E. J. Barrick, President, responded and referred in an eloquent manner to the magnitude of the work of this Association, the assistance and co-operation given its officers by the United States Government, by the Hon. John Hay, Secretary of State, and the officials of the Louisiana Purchase Exposition, as well as the Governors and Medical Associations of the respective States. He also referred to the importance of having an association of this character, whose membership is not confined to the medical profession, taking in the legal profession, public officers, and in fact every one interested and able to assist in the prevention of this fearful disease, which afflicts at least one-fifth of the human race. He also gave the history of the organization of this Association by the Medico-Legal Society. Mr. Bell's address will appear in the Bulletin, as well as in the Journal with the other addresses.

Dr. E. J. Barrick, of Toronto, Canada, President of the Association, was next introduced and thanked the different speakers for their hospitable welcome to the City of St. Louis, and its greatest Exposition known to the world's history, and then delivered a most eloquent inaugural address as President of the Association upon the great questions which must be discussed during the meeting. As

President of the Association, he tendered his most sincere thanks to the high officials for their co-operation in this great work. This address will appear in the Transactions.

In the absence of the Secretary of the Congress, Sam'l Bell Thomas, delayed by unavoidable circumstances, Dr. M. M. Smith, of Austin, Texas, and Dr. W. F. Morrow were designated by the Executive Board to act as Assistant Secretaries at this Session, and Dr. M. M. Smith being present accepted and proceeded to act as Secretary for the Association.

President Bell handed a letter from Judge Hon. Elmer Adams, of the United States District Court who had been invited to speak at the opening ceremonies for the United States Government, which was read by the Secretary, explaining that his duties have been such that he was presiding at this hour, which deprived him of the opportunity of responding for the Government and explaining its high sympathy, and extending to the Foreign delegates and members the welcome of the Government of the United States.

On motion, it was Resolved, That a committee on nomination of officers for the ensuing year be named by the President.

It was moved and carried unanimously, that a Committee on Standing Resolutions be named by the President, to whom all resolutions should be referred without debate.

The following announcements from the Board of Executive Officers was made:

1. That Delegates and members should hand in their certificates to the Secretary on or before the afternoon session.
2. Delegates and members will please sign the roll and give their home and St. Louis address to the Secretary.
3. Members and delegates who desire to take part in the discussion of papers will please leave their names and address with the Secretary.
4. That the Grand View Fraternal Hotel, Clayton and Oakland Avenues, near the entrance to the Exposition grounds, had been made the headquarters for the Congress, where the Executive Officers could be found and where comfortable rooms had been secured at reasonable prices for the delegations and members.
5. That the afternoon session would be held at Convention Hall.
6. That the proceedings and dinner on the 24th would be dispensed with as it conflicted with the observance on New York Day.
7. That the morning session would be held at Gymnasium Hall, at the Stadium on Tuesday morning, October 4, at 10 o'clock, when the remaining sessions of the Congress would be held.

The Congress took a recess to 2:15 p. m.

MONDAY, OCTOBER 3, 1904, 2:15 P. M.

FIRST DAY—AFTERNOON SESSION.

In the Chair—In Joint Session.

For the American Congress on Tuberculosis, Dr. E. J. Barrick, Toronto, President.

Supported by Dr. Thomas G. Palamo, Government Delegate from Salvador, and Dr. Kitchen, Delegate named by the Government of Ontario, Canada.

For the Medico-Legal Society, Clark Bell, Esq., LL. D., President Medico-Legal Society of New York.

Supported by Dr. D. E. Le Cavalier, of Montreal, Canada, and Dr. Mary D. Ardery, President State Society of Iowa Medical Women, Des Moines.

Several letters from distinguished members and delegates were read, announcing their inability to be present and expressing their sympathy with the work which will appear in the Bulletin and in the Journal. President Bell invited the delegates from the various foreign countries to seats on the rostrum, and called the roll of delegates and invited responses. Among those who responded on behalf of delegations speaking at some length, were Drs. Kitchen, Boucher, Morehouse, LeCavalier and DeWitt, of Canada, who referred to the methods in vogue in their respective provinces concerning Tuberculosis, the Congress and its work, which proved to be of great interest to the Association. Dr. Jacobson, of Havana, Cuba, was next introduced, and spoke concerning the anti-tubercular league of Cuba, and referred to the work being done in this country concerning consumption. Dr. Matto, the Government Delegate of Peru, was next introduced, by President Bell, and spoke eloquently of the great interest taken in this humane work in his country, and what they hope to do in the way of sanitorial and climatic treatment of the disease. Dr. T. C. Palamo, of San Salvador, was then called upon and spoke at some length concerning the work being done in his country and thanked the Association most courteously for their invitation to his government to officially attend this meeting. Delegates from various States of the United States were next called and introduced to the Association by President Bell. Those speaking at some length before the Association were Dr. Anna C. Lyle, of San Francisco, Cal., who spoke eloquently and feelingly concerning the great influx of consumptives into California from all portions of the United States, saying that most of their noted resorts had become infected foci, and that the natives were almost afraid to live in these places as a result. After speaking at some length concerning the little efforts done to prevent the spread of the disease in hotels, insane asylums and other public places, she closed by urging this Association to pass strong resolutions outlining the duties of municipalities and States, concerning indigent consumptives. Dr. N. K. Foster, of Sacramento, Cal., Secretary of the Board of Health of California, spoke and referred to the recent organization of the anti-tubercular league of that State, and said that the schools of the large cities were now inspected by physicians. Dr. P. O. Hanaford, of

Colorado Springs, Colo., on being called upon by President Bell, said he believed the best results were obtained by placing all cases directly under police supervision, and favored the establishment of a school for the instruction of health officers. Dr. M. M. Saliba, of Savannah, Ga., next spoke of the consumptives in his State, and said that formerly they were cases sent out of their State for treatment, if able, but they were now realizing that good results might be obtained at home, if the patients were placed in the right surroundings. Dr. Denslow Lewis, of Chicago, Ill., stated that active steps were now being taken in that State for the prevention of the disease; that a symposium upon the subject was presented at the last meeting of the Illinois State Medical Association. Since that time the profession and others were aroused to the situation. Dr. Sophia Hinzie Scott, of Des Moines, Iowa, a delegate from the State Society of Medical Women, spoke of the great work being done by their organization, for the education, particularly of the mother, and through her the education of the children as well as their proper development as a means of preventing the disease. Dr. Quitman Kohnke, President of the Board of Health of the City of New Orleans, spoke of the reduction of the number of cases in that city on account of their mild climate, to the large number of hours spent in the open air by their people. He said all cases were reported to the Health Officer, and the State was taking active measures to establish a sanitarium. He favored above all things as a means of preventing the disease, proper and free ventilation of all houses. Dr. J. H. Kellogg, of Battle Creek, Mich., advised the appointment of a committee to carry out the suggestions and resolutions made at this meeting, believing that committee should be appointed from this Association to report on the best methods of constructing sanitariums in the different climates, the best form of diet list to be used by such patients, likewise outline rules concerning the habits, exercise, etc., for the patients, and likewise members of their family. Dr. W. F. Morrow, of Kansas City, Mo., Secretary of the State Board of Health, spoke at some length concerning the needs of education as the best preventive measure. He thought active work should begin in the State Boards of Health, and through them reach their respective counties in the State. Dr. McAlester, President of the Board of Health of Missouri, also spoke concerning the active work being done in the State of Missouri to prevent consumption. Dr. M. M. Smith, of Austin, Texas, Secretary of the Board of Medical Examiners for that State, was called upon by President Bell, and stated that to him this was the most important meeting which would be held at the Louisiana Purchase Exposition, and that when we consider that of the more than sixty millions of people in the United States, that fully one-fifth of them would be afflicted with this disease, and fully one-seventh of them die from this cause; that he agreed with District Attorney Dyer in his address of welcome when he said if a State or a Government had the authority to spend money and sacrifice lives for its protection from a foreign enemy, how much more important it would be to at least have the same right to appropriate money to prevent a disease within its boundaries which destroyed thousands. He believed one of the most important things to be considered was the education of the physicians all over this country, so that each would be able to diagnose a case in its very beginning, so that the patient could receive the best treatment, and the members of the family could be notified, and prevent the infection of others. He believed one of the greatest means of infection is the neglect of the family physician to diagnose his case early and in speaking plainly to the patient as well as the family, and urge them to combine their efforts not only to prevent the disease in others, but to successfully restore health to the patient himself. Dr. Robert F. Monahan, of Green Bay, Wis., referred to the infection of the disease, and the small percentage of

cures when neglected. Many other short addresses were made by the delegates before the Congress, after which the Congress adjourned to meet at 10 o'clock Tuesday morning, in the Gymnasium Hall.

AMERICAN INTERNATIONAL CONGRESS ON TUBERCULOSIS.

NEWLY ELECTED OFFICERS OF THE CONGRESS FOR 1905.

The executive officers of the Association declined a re-election, and gave their requests that others should be selected as standard bearers.

The following were duly elected officers for the ensuing year, to commence January 1, 1905:

President—F. E. Daniel, M. D., of Austin, Texas, First Vice-President of the Congress of 1904.

First Vice-President—Dr. J. H. Kellogg, of Battle Creek, Mich.

Second Vice-President—Dr. Charles Wood Fassett, of St. Joseph, Missouri.

Third Vice-President—Hon. John Ferguson, of Toronto, Ontario.

Fourth Vice-President—Hon. N. O. Nelson, of Edwardsville, Ill.

Fifth Vice-President—Hon. D. P. Dyer, United States District Attorney, of St. Louis, Mo.

Secretary—Dr. M. M. Smith, of Austin, Texas.

Treasurer—Hon. Clark Bell, LL. D., of New York. Mr. Bell only consented to serve after January 1, 1905, until some one could be agreed upon for the position.

Council—Dr. P. Oliver Hanaford, Chairman, of Colorado Springs, Col., and theselection of the members of the Council and Vice-Presidents at large and from States, with additional Honorary Presidents, were given to the Board of Executive Officers now in office.

The old officers and committees of the American Congress on Tuberculosis as now in existence hold over to January 1, 1905, and to the Executive Board now in office is entrusted the closing up of the work of the sessions of 1903 and 1904, and the selection of delegates to home and foreign societies and congresses in any wise relating to Tuberculosis.

The retiring officers strongly favored the infusion of new officers of and from those who had shown interest and enthusiasm in the work.

Great changes were considered in the Board of Vice-Presidents at large, and a feeling developed that it should, so far as it was practicable, be representative in character, as far as it was possible to make it. More than one-half of this board of officers will be changed and the places filled largely from enthusiastic members and delegates who were present and took part in the work of the session.

Respecting the changes in the lists of Vice-Presidents for States, it was decided to call into active work, so far as could be made practicable all citizens who are now in active sympathy and co-operation with the work of the body.

The complete list of officers will be announced shortly, but not in time for the September number of the Journal, (which was delayed as long as possible) to make the final work to be completed in time for the next number of this Journal.

Contributions to the Symposium will appear in the Bulletin of the Congress and in the December number of this Journal, if sent in time.

TRANSACTIONS.

AMERICAN INTERNATIONAL CONGRESS ON TUBERCULOSIS, AT ST. LOUIS.

SECOND DAY'S SESSION.

TUESDAY, OCTOBER 4, 1904, 10 A. M.

The Congress assembled in the Stadium, to which the Management of the Exposition had changed the place of meeting; as being more commodious and better adapted to its work than Convention Hall.

IN the Chair:

For the American Congress on Tuberculosis, The President E. J. Barrick, M. D., of Toronto, supported by Dr. F. E. Daniel, First Vice-President of the Congress of Austin, Texas; Dr. W. H. Moorehouse, of London, Ont.; Dr. C. C. Jones, President States Medical Society of Alabama.

For the Medico-Legal Society, Clark Bell, Esq., President of the Society, supported by Dr. W. F. Morrow, Secretary State Board of Health of Missouri, and Dr. R. P. Boucher, delegate from the Government of Ontario, and Dr. E. A. McAlester, President State Board of Health of Missouri.

In Joint Session.

The meeting was called to order by Dr. E. J. Barrick, President of the Congress.

The Chair announced the following committees:

On Nominations for ensuing year:—

Dr. A. W. McAlester, Chairman, President State Board of Health of Missouri; Dr. P. O. Hanford, Health Officer, Colorado Springs, Colo.; Dr. G. A. Hare, Washington, D. C.; Dr. J. M. Saliba, Georgia; Dr. Chas. Wood Fassett, Missouri; Dr. W. R. Tipton, New Mexico; Dr. E. N. Leake, Nebraska; Dr. F. Y. de Barra, New York; Dr. C. A. Potter, Rhode Island; Dr. D. B. Buckmaster, Wisconsin; Dr. Jacobson, of Cuba; Dr. A. K. Foster, Secretary State Board of Health, California; Dr. Geo. R. Folsom, Louisiana; Dr. G. E. Dewitt, Nova Scotia; Dr. W. Wylie, Illinois; Dr. J. Finarty, Iowa; Dr. C. Thorne, Oregon; Dr. R. P. Boucher, Ontario; Dr. E. C. Cavalier, Quebec; H. A. Haigh, Esq., Michigan.

Committee on Resolutions:—

Dr. F. E. Daniel, Chairman, of Texas; Prof. Dr. C. H. Hughes, of St. Louis; Dr. J. H. Kellogg, of Michigan; Dr. Kitchen, of Ontario; Dr. Quitman Kohne, of Louisiana; Dr. Denslow Lewis, of Illinois; Dr. W. F. Morrow, of Kansas City.

HONORARY PRESIDENTS.

The President of the Congress announced at the opening session, of October 4, that the Board of Executive officers had, in pursuance of their announced intention, added the following names to the list of Honorary Presidents of the Congress:

Lay.

Hon. Clark Bell, LL. D., of New York City, Chairman of Executive Board and of Committee of Organization.

Hon. Moritz Ellinger, Chairman of Council, of New York City.

Hon. L. A. Emery, Justice of the Supreme Court of Maine and member Medico-Legal Society of New York.

Hon. W. G. Fielding, Minister of Finance of the Dominion of Canada, Ottawa, Canada.

Genl. Porfirio Diaz, President Republic of Mexico and Honorary Vice-President of the Congress from Mexico.

Hon. L. P. C. Garvin, M. D., Governor of Rhode Island.

Prof. James Loudon, President of the University of Toronto, Honorary Vice-President of the Congress.

Hon. Senor Ignacio Mariscal, Minister of Foreign Relations of Mexico.

Hon. Senor Tomas Regalado, President of the Republic of Salvador, C. A., San Salvador, Honorary Vice-President of the Congress.

Medical.

Dr. E. J. Barrick, of Toronto, Ontario.

Dr. Wm. Bayard, Vice-President of the Congress, St. John, N. B.

Dr. W. B. Fletcher, Honorary President of the Congress, Indianapolis, Ind.

Prof. Dr. Herman Kornfeld, Honorary Member Medico-Legal Society of New York, Gleiwitz, Silesia.

Hon. Geo. C. Pardee, Governor of the State of California.

Dr. S. M. Pottinger, Vice-President of the Congress, Los Angeles, California.

Sir Wm. Hingston, M. D., Honorary Vice-President of the Congress, Montreal, Canada.

Hon. Miguel A. Otero, M. D., Governor of New Mexico, Honorary Vice-President of the Congress.

Prof. Dr. Otto von Schroen, Royal University of Naples, Italy, Honorary Vice-President of the Congress.

President Bell announced that the Management had appointed the following Local Auxiliary Committee of Arrangements and Reception:

COMMITTEE ON ORGANIZATION.

President Bell announced that Hon. D. R. Francis, President of the Management of the St. Louis Exposition, had appointed the following Committee on Organization:

Clark Bell, Esq., LL. D., Chairman, 39 Broadway, New York City.

E. J. Barrick, M. D., Vice Chairman, Toronto, Ont.

A. N. Bell, M. D., Brooklyn, N. Y.

J. Mount Bleyer, M. D., New York City.

Hon. Ex-Judge Abram H. Dalley, Brooklyn.

Dr. F. E. Daniel, Austin, Texas.

Thomas Darlington, M. D., New York City.

W. F. Drewry, M. D., Petersburg, Va.

Hon. Moritz Ellinger, New York City.

John Ferguson, M. D., Toronto, Ont.

A. P. Grinnell, M. D., Burlington, Vt.

Prof. C. H. Hughes, M. D., St. Louis, Mo.

M. K. Kassabian, M. D., Philadelphia, Pa.

H. Edwin Lewis, M. D., Burlington, Vt.
Dr. W. F. Morrow, Kansas City, Mo.
R. J. Nunn, M. D., Savannah, Ga.
Dr. W. B. Outten, St. Louis, Mo.
Dr. A. E. Regensburger, Cal.
Sur.-Gen. N. Senn, M. D., Chicago, Ill.
Dr. John H. Simon, St. Louis, Mo.
Dr. M. M. Smith, Austin, Texas.
J. W. P. Smithwick, M. D., Le Grange, N. C.
G. B. Tabor, M. D., Austin, Texas.
Prof. Dr. Adam H. Wright, Toronto, Ont.

SECRETARIES.

Prof. Dr. A. H. Wright, M. D., Toronto, Ont.
Hon. Moritz Ellinger, New York City.
Dr. Thomas Darlington, New York City.

The Chair announced that the session would be devoted to the consideration of the First Symposium on Tuberculosis and Preventive Legislation.

That it was under the charge of the Standing Committee on Preventive Legislation, of which Clark Bell, Esq., LL. D., is chairman.

That at the instance of the officers of the Congress, the committee had presented, in advance, a report through its chairman, Clark Bell, Esq., LL. D., which had been sent members and delegates, defining and stating the questions which, in the opinion of the committee, should be submitted for discussion, as follows:

Preventive Legislation Against Tuberculosis:—

1. Conceding that Tuberculosis is a communicable disease from one human being to another, without which no legislation could be sustained by the courts, the real burning issues that confront the Congress, may be thus briefly stated:

a. How far can legislation be devised, that can arrest, avert or even diminish the terrible mortality of consumption, under which the human race now suffers.

b. How can this Congress devise means, that will educate the public mind, to a recognition of the imperative necessity of legislative action, and define its scope and field; and

I. To favor the passage of such legislation as is deemed likely to best accomplish the desired result, and

II. How can public opinion be best aroused, formed and enlightened, so that the public will favor the enforcement of such legislation when adopted.

The discussion will be opened by Clark Bell, Esq., LL. D., Chairman, who will make an address.

The subject will be thrown open for discussion, orally and in papers, the whole to form a symposium.

The discussion, if not concluded at the session, may be sent to the Standing Committee, in charge of its chairman.

The advisability of receiving papers up to January 1, 1905, and later, if the Executive Board so orders, to form a part of the Transactions, will be considered.

Mr. Clark Bell, Chairman of the Standing Committee on Preventive Legislation, was then introduced by the President, Dr. E. J. Barrick.

Mr. Bell then laid before the Congress the printed report, which had been sent out by him in advance of the session, and which will appear in the Bulletin as the introduction of the subject to the Congress and published in the June Number, Medico-Legal Journal, at page 94.

He also submitted a paper entitled "Prevention Legislation in Forensic Medicine," which by reason of the pressure of time, he

asked that it be read by title and ordered published as his contribution to the subject. Leave was granted and the paper was read by title and will appear in the Medico-Legal Journal and in the Bulletin.

Mr. Bell said that the Standing Committee had condensed the questions to come before the Congress for discussion under the three headings or subdivisions, which they had placed on the programme for this day's discussion and which the Chair has carefully stated.

That these subjects were, in the opinion of the Congress, the crucial questions of the hour in the campaign against tuberculosis, and by far the most important that would come before the Congress, and that the ablest Medico-Legal jurists had regarded them as the most momentous questions in Forensic Medicine that had ever been presented for the study of the problems now confronting the human race. His own views had been outlined in the papers that have been presented; and he opens the subject for discussion, which he trusts will be for the public good.

Dr. W. D. Neal, of Chicago, in discussion of the subject submitted said that he did not believe that tuberculosis was a communicable disease, and announced that he claimed that the right of free discussion must be recognized and that he was one of those who denied and in toto the germ theory of the tubercle bacillus and was prepared to assert that the views now entertained by the medical world as to the transmissibility of tuberculosis were erroneous and untenable, and that he was not willing to concede that consumption was a communicable disease from one human being to another, as was generally held by the medical profession of the world.

Dr. Daniel said, in part in reply to the sentiments expressed by Dr. Neal, of Chicago: That he was opposed to wasting the time of the Congress in such a discussion, and spoke at length against its being permitted by the Congress. His remarks appear at length in this issue.

As a special favor to the foreign delegation, Dr. Joaquin L. Jacobson, of Havana, Cuba, one of the Honorary Vice-Presidents from Cuba, by unanimous consent of the House was granted the floor and presented and read a paper entitled "The Importance of Statistics in the Problem of Tuberculosis."

At Dr. Jacobson's request the paper was read by Dr. M. M. Smith, Assistant Secretary, by reason of Dr. Jacobson's nonfamiliarity with our language. The following resolutions were presented and duly referred to the Committee on Resolutions:

Dr. F. E. Daniel, of Texas, offered the following preamble and resolutions:

Whereas, The public health is the paramount interest of every State and nation, and upon it depend in a measure all other interests; and

Whereas, In American countries it is less safeguarded than any interests public, private, personal, or property; and

Whereas, Consumption is the greatest menace and destructive agent to the public health, its mortality, according to the last United States census report, being over 400 a day; and

Whereas, The cause or causes of this disease and its methods of dissemination are well understood by medical and sanitary scholars; and

Whereas, It is known to be an infectious and communicable disease the prevention of which is within the power and scope of sanitary science; and

Whereas, It requires the authority of law to institute and enforce the necessary and proper measures of prevention; be it

Resolved, That it is the sense of the American International Congress on Tuberculosis, now in session at St. Louis, Mo., that it is the imperative duty of all civilized governments to take immediate

action for the arrest of the spread of this scourge, and, as far as lies within the power of sanitary science and human endeavor, to eradicate it; and, further, that it is the sense of this Congress that every government should appoint a commissioner of the public health with a seat in the Cabinet, and give adequate authority and means to accomplish the desired ends in suppressing tuberculosis; and, further, that each State and Territory of the United States, where there exists a State Board of Health,—and in those States where there is no board of health there should be created a board composed of the ablest sanitarians,—authority should be given to such boards to formulate and enforce a code of regulations for the prevention of the ravages of this fatal scourge.

Mr. Clark Bell, of New York, offered the following resolutions:

Resolved, That as the sense of this Congress consumption is a communicable disease from one human being to another.

Resolved, That it is within the power, and it is the duty of the Government of every State, Province or Country to adopt such laws and regulations as will most effectually arrest the ravages and spread of this terrible disease.

Resolved, That as the efficacy and usefulness of laws depend upon their prompt and vigorous enforcement; and as experience has demonstrated that laws can only be enforced that are in accord with sound public opinion, it is in the judgment of this Congress the bounden duty of every citizen to use his influence and his best endeavor, to arouse and create a public sentiment in favor of the adoption of preventive legislation respecting this disease, and as well to support the authorities in the vigorous enforcement of such laws when they have them adopted.

The following resolution was offered by Dr. E. J. Barrick, of Toronto:

Resolved, That it is the duty of government authorities to promote the establishment and maintenance of State and municipal sanatoria in which tubercular patients may be isolated from their relatives and the public, and where they may be placed under suitable conditions for the cure or arrest of the disease.

The following resolution was offered by Dr. J. H. Kellogg, of Battle Creek, Mich.:

Resolved, That a committee be appointed to study, in a thorough-going way, the following questions:

1. What are the best plans for the construction and management of hospitals, sanitarium buildings, cottages, tents and other structures for the accommodation of tubercular patients?

2. What should be the diet of the tubercular patient, especially with reference to the kind and quantity of proteids, fats and carbohydrates?

3. What accessory, physical and hygienic, measures may be properly employed, such as sun-bathing, the electric light as a substitute for sunlight, cold bathing, exercise, special gymnastics, etc.?

4. What simple rules of hygiene, applicable in the home, may be commended as preventive of tuberculosis? and

Resolved, That the chair appoint a committee whose duty it shall be to collect from all available sources accurate data in relation to the several questions above named, and to digest and formulate the same into a series of recommendations for general circulation; and

Resolved, That it is the duty of health boards, health officers, and all sanitary authorities to report cases of this disease, at least all cases of pulmonary tuberculosis, with other infectious disorders, and to observe the same care as regards disinfection of the premises occupied by persons suffering from such diseases, after measles, or any other contagious

Resolved, That to facilitate the early diagnosis of this disease, it is the duty of every State and municipality to provide laboratory facilities sufficient for its needs for the microscopic and bacteriologic examination of sputa; and

Resolved, That systematic efforts should be made for the education of the public in relation to the communicability and curability of tuberculosis through the circulation of carefully prepared leaflets and other literature, the holding of schools of health or health conventions, the organization of local and State societies for the suppression of tuberculosis, special lectures before fraternal associations, clubs, college students, chautauquas, associations of teachers, clergymen, and other bodies of professional men; and

Resolved, That in our hospitals for the insane and other hospitals and asylums, as well as prisons and almshouses, provision should be made for the isolation of tubercular persons.

The following resolution was offered by Dr. Densmore Lewis:

Resolved, That a special committee be appointed to investigate the relation between venereal disease and general or local tuberculosis.

The following resolution was offered by Dr. P. O. Hanford, of Colorado Springs.

Resolved, That a national legislative committee should be appointed to receive the memorials and resolutions passed by the committee on resolutions of this Congress, and to take such measures as to have them properly presented in the Congress of the United States and the governments of the foreign countries represented in this Congress;

That they be empowered further to confer with the legal representatives of each State municipality, and even local boards of health, to the advancement of local legislation against the spread of tuberculosis;

That they be empowered to draft, compile or formulate a copy of a general law, and urge each State to enact the same under the authority of this Congress.

The suggestion is made that this committee be composed of professional men representing those professions whose judgment will advance the aeration, lighting and sanitation of dwellings, pathology, etc.; and that an honorary board be formed to act in conjunction with committees from business men's associations, fraternal associations, and others who may aid in this great work.

Further that this committee appoint in each State one person to act in the formation of like committees within the State.

The following resolution was offered by J. H. Kellogg, of Battle Creek, Mich.:

Resolved, That the chair be authorized to appoint a committee of four persons who shall constitute a committee on publicity, and who shall be empowered to enlarge their number by enlisting the assistance and co-operation of prominent educators, manufacturers, philanthropists, and others who may be able in various ways to assist in carrying on a strong educational campaign against tuberculosis.

The following resolution was offered by Dr. W. H. Mayfield, of St. Louis:

Resolved, That we most heartily concur in the suggestion of the National Fraternal Congress, recently in session in this city, representing more than five million persons, that hospital cars should be provided by the leading railroad lines connecting with climatic resorts frequented by tubercular patients; and that we recommend the efforts as one in which all organizations and associations of men and women should be interested.

It was resolved, on motion of the Chairman of the Executive Committee, on the action of the Executive Board that this discussion be held open for additional contributions to the Symposium on Preventive Legislation, by reason of the late date of the appointment of so large a number of delegates, to January 1, 1905, and contributions requested to be sent to the Executive Board; which was carried by unanimous vote.

Recess was taken to 2:30 p. m.

SECOND DAY, AFTERNOON SESSION.

OCTOBER 4, 1904, 2:30 P. M.

In Joint Session.

In the Chair:

For the American Congress on Tuberculosis, The President Dr. E. J. Barrick, supported by Dr. W. F. Morrow, Secretary State Board of Health of Missouri; Henry Haigh, Esq., of Detroit, Mich., and Dr. B. Hugh Scott, of Iowa.

For the Medico-Legal Society, Clark Bell, Esq., President, of New York; supported by Dr. Thos. E. Palamo, Government delegate from Salvador; Dr. G. E. Kitchen, Government delegate from Ontario, Canada, and Dr. C. C. Jones, President State Medical Society, Alabama.

The Chair announced that the session would be devoted to the consideration of the Second Symposium, "The Relation of Insanity to Tuberculosis."

To be opened by Dr. Bruce Smith, of Ontario.

President stated that the following letter has been sent to a large number of those who were believed to be interested in the question, and their contributions and the discussion will be compiled as a general symposium up this subject:

Dear Colleague:

The Board of Executive officers have decided to invite you to be present and take part in a discussion of the subject of "The Relation of Insanity to Tuberculosis," at the approaching Congress, at the St. Louis Exposition, on October 3, 4 and 5, proximo.

We hope that you will contribute a paper and forward it as early as possible or allow your name to be announced as willing to take part in the discussion of that subject. If you are unable to be present personally, your contribution will be read for you, at the session or before a Section, or a Standing Committee,—the whole to constitute a Symposium. Please favor the officers with an early response and forward your views in advance, also to aid the Committee having in charge the formation of the programme of the Congress. Contributions to the Congress may be written in any language and sent in advance of the session.

Respectfully submitted,

E. J. BARRICK, President.

CLARK BELL,

Chairman Executive Board and
Committee on Organization.

Mr. Bell said that Dr. Bruce Smith, of Ontario, who had consented to open the discussion, was too ill to be present, and that leave was asked for Dr. Smith's paper to be forwarded to the Executive Board after the session; which was granted.

Mr. Bell then presented the following contributions to the Congress on this subject:

1. Paper of Dr. C. H. Hutchins, Superintendent of the Insane Hospital at Ogdensburgh, N. Y., which was read, entitled "The Relation of Insanity to Tuberculosis."

2. The contribution of Prof. Dr. Herman Kornfeld, of Gleiwitz, Germany, on the same subject, which was read; same title.

3. The contribution of Prof. Dr. Moritz Benedikt, of Vienna, Austria, on the same subject; honorary member of the Medico-Legal Society of New York, was presented by President Bell as the contribution of Prof. Benedikt to the discussion of the same subject, which was read by the Secretary.

Dr. De Witt, of Nova Scotia, addressed the Convention and stated that he believed the great cause of tuberculosis was house infection; particularly was this the case in insane asylums. He stated that in his country the establishment of training schools for nurses in asylums had been the means of preventing the spread of the disease, through the efficient methods of disinfection as the result of experienced nurses in such cases.

Dr. Hays, superintendent of the insane asylum of Louisiana, said that in his State a new building was being erected for the isolation of the tubercular insane, and that on account of the mild climate in that State, and the large number of hours spent in the open air as a result, that they did not have the amount of tuberculosis among the insane that obtained in cooler climates and in less desirable atmospheres.

Dr. N. K. Foster, secretary of the State Board of Health of California, advocated the tent system for the isolation and treatment of tubercular insane, and believed the tent offered the best system of ventilation, and was cheap in construction. That it had been demonstrated throughout the West that it could be used in the winters as well as the summer with advantage, and he thought the benefits derived by their use would be very great.

Dr. M. M. Smith, of Texas, spoke of the isolation of the insane as carried on in the asylums in his State at the present time. He referred with pleasure to the fact that the isolation cottages for the tubercular had been made use of at one of the State penitentiaries of Texas for many years. And that the pioneer in this line of work was Dr. W. E. Fowler, resident physician of the State penitentiary at Rusk, Texas.

Dr. P. O. Hanford, of Colorado, next discussed the papers, followed by Dr. Hare, of Colorado. Same was also discussed by Dr. Jaffa, of Colorado, and Dr. Finarty, of Iowa, and Professor C. H. Hughes of St. Louis.

Dr. W. P. Roberts, of Jonesville, Wis., next spoke of pioneer work that was being done in his State for the prevention of tuberculosis.

The Secretary read a letter from Dr. S. R. Burroughs, of Buffalo, Texas, one of the Vice-Presidents, and a delegate to the Congress, which referred forcibly to the work to be accomplished by this organization, and presenting his regrets at being unable to attend.

The following contributions were read by title:

Dr. Mihran K. Kassabian, Philadelphia, Pa., "The Roentgen Ray in Tuberculosis."

Dr. N. E. Aronstam, Detroit, Mich., "A Contribution to the Study of Tuberculodermata."

Dr. D. E. Le Cavalier, Editor Montreal Medical, Montreal, "La Tuberculose devant la loi."

Prof. Dr. Moritz Benedikt, Vienna, Austria, Honorary Member Medico-Legal Society of New York, "On some points of Protection of Tuberculosis and Phthisis Communication."

Dr. Thomas Basset Keyes, Chicago, Ill., "Climate of the Southwest," "Evidence as to the Value of Subcutaneous Feeding with Oil to an Absolute Cure for Consumption."

Dr. M. M. Smith, Austin, Texas, "The Sanitarium Treatment of Tuberculosis."

Dr. J. E. Gilcreest, Gainesville, Texas, "Tuberculosis of the Uterus and Adnexa."

Dr. J. H. Kellogg, Battle Creek, Mich., "Methods of Combating Tuberculosis in the Individual."

Dr. C. R. Arnold, Colorado Springs, Colorado, "The Treatment of Tuberculosis at High Altitudes."

Dr. Helen Reynold Kellogg, 1207 Stewart Building, Chicago, Ill., "The Treatment of Tuberculosis by Injection of Olive Oil and Out of Door Life."

Prof. Dr. A. Marmoral, 7 Rue Monore de Chevalier, Paris, France, "Le Traitement de la Tuberculose par le Serum Antituberculeux."

Dr. R. Bruce Smith, Brockville, Ontario, Canada, "On the Relation of Tuberculosis to Insanity."

Dr. Earl D. McGill, Wray, Colorado, "Colorado and Tuberculosis."

Dr. J. Elvin Courtney, 524 14th Street, Denver, Colorado, "The Neurosthenia of Pulmonary Tuberculosis."

Dr. Emanuel Baruch, 57 East 77th Street, New York City, N. Y., "The Relation of Insanity to Tuberculosis."

Dr. C. B. Wilkinson, San Antonio, Texas, "The Banishment of Tuberculosis from the United States."

Dr. Martin W. Curran, Editor Daily Medical, New York City, U. Y., "Environment as a Predisposing Factor."

Dr. F. M. Pottenger, President Southern California Anti-Tuberculosis League, Los Angeles, California, "Prevention of Tuberculosis."

Dr. Frederick Lausman, 270 East Huron Street, Chicago, Ill., "Tuberculosis of the Prostate Prophylaxis and Treatment, Comparison and Choice as to Local Methods After Previous External Local Diagnosis."

Dr. Jennie McCowen, of Davenport, Iowa, Vice-President for Iowa, "How to Educate Public Opinion in Regard to Tuberculosis."

Dr. Anne Burnett, Assistant Physician State Hospital for Insane, Mt. Pleasant, Iowa, "The Relation of Tuberculosis to Insanity."

The same subject by Dr. Mary Ardeny, President of the State Society Iowa Medical Women.

Dr. Joaquin Y. Jacobson, Monserrate 2 Habana, Cuba, Secretary Liga Contra La Tuberculosis en la Isle de Cuba, 1, "Importance of Statistics in the Tuberculosis Problem;" 2, "Results Realized by the League Against Tuberculosis in Cuba."

Prof. Charles H. Hughes, 3857 Olive Street, St. Louis.

Dr. Alfred Regensburger, San Francisco, California.

Dr. L. V. Littig, Iowa City, Iowa. Title not announced.

Dr. Perry Jaffa, Trinidad, Colorado. Title not announced.

J. Mount Bleyer, M. D., M. S., LL. D., of New York City, "Light; Its Therapeutic Importance from Scientific Researches."

It was moved by President Bell and unanimously carried, that the discussion of this subject be held open until January 1, 1905, and longer at the option of the Executive Board for further contributions because of the late date of appointment of so many of the delegates.

The next order was then taken up on the programme, "The Pathology and Bacteriology of Tuberculosis."

The Chair announced that the discussion was to be opened by Prof. Dr. Otto Von Schroen, who had sent a paper which had reached President Bell that day. Mr. Bell stated that the paper was in the German language, entitled "Ueber den Phthisiogenen Microben, und den Unterschied von Tuberculose und Phthise der Lunge," and

was accompanied by sixty-four photographic illustrations, which contained and illustrated the discoveries of Prof. Von Schroen in this domain of scientific research, and that it was in process of translation and which if read could only be read in the German language. That it was accompanied by a resume or analysis of the same, written in the Italian language, entitled "Sul Nuovq Microbo, della Tisi sulla differenza, essensiale Tra Tuberculosi e Tisi Polmonale." That Dr. Fred. Kolbenbeyer, of St. Louis, a member of the Auxiliary Committee, would read the paper in German if desired, or would later come before the Congress and state briefly its leading features in our language.

The paper was then, by resolution, considered as read in the German language and received by the Congress, ordered to be translated and published in the Journal and in the Bulletin, so that it could be furnished to the profession and discussed intelligently after its translation.

It was moved that the discussion of the paper and other subjects be also held open to January 1, 1905, for obvious reasons, which was carried unanimously.

Mr. Bell presented the paper of Dr. H. Edwin Lewis, a member of the Council, on this branch of scientific inquiry.

The Chair announced that the Management of the Congress had decided to dispense with the banquet which had been proposed for the evening of the second day, because it was New York Day at the Exposition, and the ball to be given at the New York State Building that evening, and the annual ball of the St. Louis Society presented so many attractions for the people of St. Louis occurring at the same time, would seriously conflict with the proposed dinner of the Congress.

The Chairman of the Executive Board, Mr. Bell, stated that an enormous correspondence from nearly one thousand persons had been sent to the Chairman of the Executive Board.

That not one-tenth part of it could be read before the Congress. That it evinced as a whole great feeling and enthusiasm throughout the whole of the Western world in the movement and earnest wishes for the success of the Congress, and he asked for instructions respecting it.

It was on motion resolved that the Chairman of the Executive Board be directed and empowered to edit, arrange and utilize such portions of it as could be found space for in his discretion in the published transactions.

The session adjourned at a late hour until 10 a. m. of October 5, 1904.

E. J. BARRICK, President.

M. M. SMITH, Acting Secretary.

10/10/10

10/10/10

10/10/10



AMERICAN INTERNATIONAL CONGRESS ON TUBERCULOSIS,
ST. LOUIS, MO., 1904.

DR. HANS J. PETERSEN,
Vice President for Iowa,
Ratcliffe, Iowa.

DR. W. M. CUNNINGHAM,
Vice President for Alabama,
Corona, Ala.

DR. N. C. EVANS,
Vice President for Wisconsin,
Mt. Horeb, Wis.

DR. BRANSFORD LEWIS,
Honorary Vice President,
Member Auxiliary Committee,
St. Louis, Mo.

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TRANSACTIONS.

American International Congress on Tuberculosis, Held at St. Louis.

WEDNESDAY, OCTOBER 5, 1904, 10 A. M.

THIRD DAY—MORNING SESSION.

The Congress met in the Stadium.

In the Chair:

For the American Congress on Tuberculosis, the President E. J. Barrick, M. D., of Toronto; supported by Dr. Cavalier, of Montreal; Dr. Hugo Philler, of Wisconsin, and Henry Haigh, of Michigan.

For the Medico-Legal Society, Clark Bell, Esq., president of that body; supported by Denslow Lewis, M. D., of Chicago; Prof. C. H. Hughes, of St. Louis.

In Joint Session.

The meeting was called to order by Dr. E. J. Barrick.

President Bell announced that the session would be devoted to the subject of "Sanitoria," under the charge of the President, Dr. E. J. Barrick, of Toronto, chairman of the Standing Committee on Sanitoria; that Dr. Barrick would open the discussion and make an address.

President Bell, in the chair, introduced Dr. E. J. Barrick, chairman of the Standing Committee on Sanitoria.

Dr. E. J. Barrick spoke in detail concerning the method of treatment in the municipal sanatoria in the different municipalities of Canada, and how the money for the same was being obtained, speaking somewhat in detail concerning the methods of construction and plans for obtaining money and the successful management of these cases. He said he did not believe in voting free sanitariums except in rare instances for the very dependent. He thought every one who made as much as a dollar or a dollar and a half per day could pay something for treatment in such an institution. He also spoke at some length upon the importance of a free discussion of this important subject before the Congress. He referred to the admirable system of municipal sanatoria now being erected throughout Canada, and to the necessity of having ample provision made for the isolation of the tubercular in the insane asylums, jails and penitentiaries, and urged that this important subject be brought forcibly to the attention of those in authority in such institutions, and at the close of his address submitted the following resolutions for discussion:

Whereas —
fifth +

rectly or indirectly responsible for one-fifth the world over, and for nearly

one-half of those occurring between the ages of twenty and thirty years; and,

Whereas, It is an established fact that Sanatorium Treatment is an important factor in curing and in preventing the spread of the disease; and

Whereas, It is impossible for each municipality to establish and maintain a Municipal Sanatorium for its own people, by bringing about the co-operation of Federal, State, Provincial, Municipal and Individual Aid; be it therefore and it is hereby

Resolved, That in the opinion of this International Congress on Tuberculosis all the members thereof should use their influence in their respective localities to bring about this co-operation, which if carried on in conjunction with the Local Boards of Health would bring the benefits of a Sanatorium within the reach of consumptives in every municipality.

The discussion will be open to every member of the Congress, and will be oral and by the presentation of papers, which will as a whole form a symposium on the subject.

Dr. De Witt, of Nova Scotia, also referred to the value of municipal sanatoria in Canada, and agreed with Dr. Barrick in all he had said.

Dr. J. L. Jacobson, of Havana, Cuba, in discussing the subject, stated that he had recommended, in a paper before the Academy of Science in 1894, in Havana, the establishment of a sanatorium in La Sierra, a most healthy location in the province of Santa Clara, about eight hundred meters above the sea level. The Cuban League against tuberculosis recommended at several of its sessions, the creation of popular sanatoria, and that the government had bought about one hundred acres of land at a cost of \$17,000 for this purpose. The House of Representatives of Cuba voted a loan of \$150,000, and before this money becomes available it is necessary that same be passed by the Senate. The speaker thought that favorable action would be obtained in that body.

Dr. David Matto, the delegate from Lima, Peru, spoke eloquently concerning the altitude and climate of Peru as being most suitable for the treatment of tuberculosis. Owing to the fact that the speaker used the French language, the Secretary was not able to get full notes.

Dr. Ross, of Colorado, also spoke concerning the question of the prevention of tuberculosis, and discussed the value of fresh air, not only in the care, but in the treatment of the disease.

Dr. M. M. Smith, of Texas, spoke extendedly of the value of sanatoria in the treatment of the disease, as learned by a visitation to nearly all of the sanatoria in the United States, and particularly the government sanatorium at Fort Bayard, New Mexico, and expressed his firm belief in that line of treatment.

Dr. Finarty, of Iowa, spoke and said he did not believe in legal restriction in the prevention of the disease.

Dr. Q. Kohnke, of Louisiana, President of the Board of Health of New Orleans, replied to those who did not believe in the germ theory and communicability of the disease, speaking at some length of the certainty of these theories as same were accepted by almost all authorities.

A telegram was read from Dr. F. M. Pettinger, of California, who stated he was en route to the Convention, but that washouts on the road would probably prevent his reaching there before adjournment. The subject was also discussed by Drs. Monahans, of Wisconsin, W. D. Neel, of Illinois, and Mayfield, of Missouri.

At this juncture Dr. Mayfield, of Missouri, introduced Mr. Edison, President of the Fraternal Organization, with a membership of about six millions in the United States, who was invited to address the Convention. Mr. Edison made an eloquent address, showing the



**PRESIDENT AND MEMBERS OF THE COUNCIL AMERICAN
CONGRESS ON TUBERCULOSIS, 1904.**

HON. MORITZ ELLINGER, ESQ.,
President of the Council, Ex-Coroner of New York City,
Corresponding Secretary and Honorary Member of the Medico-Legal
Society of New York City.

DR. WILLIAM F. DREWERY,
Member of Council, 1904,
Petersburg, Va.

DR. H. EDWIN LEWIS,
Editor Vermont Medical Monthly,
Member of Council.
Burlington, Vt.

DR. MIHRAN K. KASSABIAN,
Member of Council,
Philadelphia, Pa.

deep interest felt in the work taken by this body. He stated that his people expected to raise a large amount of money, and in all likelihood \$1,000,000 for the establishment of sanatoria for the treatment of consumption, for the different orders, in a suitable climate. He believed in the active efforts to prevent the spread of tuberculosis, among the people at large. A vote of thanks was tendered Mr. Edison for his address, and the Fraternal World for its co-operation and assistance to the Convention in this philanthropic work. Mr. Edison pledged for the Fraternal World its support and co-operation.

THIRD DAY—AFTERNOON SESSION.

In the Chair:

For the American Congress on Tuberculosis, the President E. J. Barrick, supported by Dr. N. K. Foster, M. D., Secretary State Board of Health of California, and Quitman Koukhe, Secretary Board of Health of New Orleans.

For the Medico-Legal Society, Clark Bell, Esq., President of the Society; supported by Sophia Hinzle Scott, M. D., Vice-President from Iowa, and Dr. W. F. Morrow, Secretary State Board of Health, of Missouri.

The chair announced the following order of business:

The Medical and Surgical Aspects of Tuberculosis. (Embracing Climatic Conditions, Light and Electricity):

1. Report of Nominating Committee of officers for ensuing year.
2. Election of officers for the ensuing year.
3. Reports of committees.
4. Miscellaneous papers will be read.
5. Consideration of resolutions, reports of committees and unfinished business.

The paper of Dr. J. Mount Bleyer, of New York, was read by title, at his request, he being delayed by illness in New York, and ordered published in the Bulletin.

The report of the nominating committee was presented by Dr. P. O. Hanford, Vice-Chairman, and the same was accepted, and on motion, the Secretary of the Congress was instructed, unanimously, to cast the ballot of the Convention for each officer presented by the nominating committee, and the following officers were duly declared elected:

President, Dr. F. E. Daniel, Austin Texas.

First Vice-President, Dr. J. H. Kellogg, Battle Creek, Mich.

Second Vice-President, Dr. Chas. Wood Fassett, St. Joseph, Mo.

Third Vice-President, Dr. John Ferguson, Toronto, Canada.

Fourth Vice-President, Hon. L. O. Nelson, Edwardsville, Ill.

Fifth Vice-President, Hon. D. Pat Dyer, St. Louis.

Secretary, Dr. M. M. Smith, Austin, Texas.

Treasurer, Hon. Clark Bell, New York, N. Y.

Chairman of Council, Dr. P. O. Hanford, Colorado Springs, Colo.

The nominating committee also recommended the election of the remainder of the Council, honorary presidents and vice-presidents, vice-presidents at large and vice-presidents of States and Provinces to cover all of the States and provinces of the Western Hemisphere by the Executive Board.

It was on motion resolved that the recommendation be approved, and the present Executive Board be authorized, empowered and directed to elect, nominate and appoint all such officers, and that



We hope that you will contribute a paper and forward it as early as possible or allow your name to be announced as willing to take part in the discussion of that subject. If you are unable to be present personally, your contribution will be read for you, at the Session or before a Section, or a Standing Committee. The whole to constitute a Symposium. Please favor the Officers with an early response and forward your views in advance, also to aid the Committee having in charge the formation of the program of the Congress. Contributions to the Congress may be written in any language and sent in advance of the Session.

Respectfully submitted,

E. J. BARRICK, President.

CLARK BELL,

Chairman Executive Board and
Committee on Organization.

It was the purpose of the Management to open the discussion of these subjects to all who are interested in them, in all lands, and the lay and Medical Press were solicited to give the notice publicity, to the end that all who took an interest in them, might regard themselves as especially invited, and address the President, or the Chairman of the Committee on Organization, upon the subject, whether they have received the special invitation or not.

The opening paper of the Symposium we had hoped would be that of Dr. R. D. Bruce Smith, Superintendent of the Provincial Hospital for the Insane at Brockville, Ontario. His illness prevented, but the time having been extended for contributions to this Symposium to January 1, 1905, it will doubtless be completed to as to appear later.

Dr. R. H. Hutchings, Superintendent of the State Hospital, at Ogdensburg, New York, who had received the original letter, replied that although unable to attend the Congress, he would prepare and contribute the opening paper, vide "Notes on Tuberculosis" for the letter of Dr. Hutchings.

State of New York, St. Lawrence State Hospital,
(R. H. Hutchings, M. D., Superintendent.)
Ogdensburg, August 12, 1904.

Clark Bell, Esq., 39 Broadway, New York City.

Dear Sir:—I am in receipt of your invitation, as Chairman of the Executive Committee of the American International Congress on Tuberculosis, to contribute a paper joining a discussion on "The Relation of Insanity to Tuberculosis," at the approaching Congress to be held at St. Louis, in October. I note that you say if unable to be present at that time my paper or discussion will be read for me, and with this understanding I would be glad to contribute a short paper in the discussion of that subject. It will not exceed ten minutes in length and will refer to the frequency of the disease in the St. Lawrence State Hospital and the provisions which have been adopted to combat it, including the construction of a separate building for the treatment of this disease for the accommodation



We hope that you will contribute a paper and forward it as early as possible or allow your name to be announced as willing to take part in the discussion of that subject. If you are unable to be present personally, your contribution will be read for you, at the Session or before a Section, or a Standing Committee. The whole to constitute a Symposium. Please favor the Officers with an early response and forward your views in advance, also to aid the Committee having in charge the formation of the program of the Congress. Contributions to the Congress may be written in any language and sent in advance of the Session.

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of one hundred patients, and the organization and equipment of this building.

If this would be of interest to the Congress I will prepare a paper and forward it to whatever address you suggest a week or more in advance of the meeting.

Yours truly,

R. H. HUTCHINGS,
Superintendent.



PROF. DR. HERMAN KORNFELD.

INSANITY AND TUBERCULOSIS.

BY PROF. DR. HERMAN KORNFELD, GLEIWITZ,
SILESIA, GERMANY,

Honorary President of the American International Congress On
Tuberculosis and Honorary President of the
Medico-Legal Society.

The question of the connection of Insanity with Tuberculosis essentially depends upon the connection between mind and matter. About this an universally accepted theory has not yet prevailed, and is not, in my opinion, ever likely to obtain. Perhaps that of the parallelism in the psychical and corporal functions has at this time the greatest number of adherents. Curiously enough there is a classical example—and every man will have occasion in his own sphere to observe something like it—to show that it must be erroneous. That hero of the Bible, Jacob, near the death, sick, feeble, almost deprived of his eye-sight, is at the same time in the highest exaltation of mind, in which he pronounces the words of blessing and of prophetic vision appealing to the heart of so many millions of his offspring.

Of Tuberculosis it is generally known that in striking contradiction to his physical condition the patient presents a most hopeful condition of mind, frequently lasting till the very end. Quite another mood in mind will be observed in affections of the bowels; a subject about which the author has recently written in his essay on Crime and Insanity. He thinks that the brain is not the seat of the psychical functions; he is yet sure that his organ serves only as an instrument of the psyche. The faculty of seeing is not impaired by the destruction of the eyes; so the psyche is not by affections of the brain. There must be always some further cause in the production of Insanity intervening in the course

Read before the American International Congress on Tuberculosis, at St. Louis, by Dr. M. M. Smith, Editor Texas Medical News, of Austin, Texas.

of Tuberculosis as well as in many other diseases, during which insanity has been observed. The reason of this conception lies in the fundamental principle: Psyche can only be impaired by psychical causes.

So much for this connection; I may add only, that, most remarkably, lungs, popularly as well as in poetical language never are associated with functions of mind, as is otherwise shown to be daily with regard to heart, kidney, liver, spleen, bowels &c. But it would lead me too far to try here an explanation.

THE RELATION OF INSANITY TO TUBERCULOSIS.

BY PROF. DR. MORITZ BENEDIKT, VIENNA, AUSTRIA.
Honorary Member of the Medico-Legal Society.

The following contribution to this Symposium was sent by Prof. Benedikt to the Hon. Clark Bell, Chairman of the Executive Board, as his contribution to that Symposium:

Vienna, July 31, 1904.

My opinion about the relation of "Insanity to Tuberculosis" is very short and simple, and I have already announced it before. I believe that the degeneration of the system of the nerve-centres reaches also the respiratory nerve-centres and that in this way the power of resistance of the lungs is so diminished that the least occasion may induce heavy infection.

We know that the inhibition of energetic evacuation, and renewal of the air in some parts of the lungs, in certain forms of professional occupations, as it is, for example, the case in tailors' occupation, predisposes for Tuberculosis. No wonder when in all forms of general palsy the diminished respiratory power has the cited effect. It will be useful to study directly the respiratory power in advanced cases of Insanity.

Read before the American International Congress on Tuberculosis, October 4, 1904.

THE RELATION OF TUBERCULOSIS TO INSANITY.

BY R. H. HUTCHINGS, M. D., OGDENSBURG, N. Y.,
Medical Superintendent, St. Lawrence State Hospital.

A recent careful physical examination of the 1710 patients in the St. Lawrence State Hospital, at Ogdensburg, N. Y., revealed in 77 a tubercular involvement of the lung in greater or less degree. This population may fairly be considered a representative one, including as it does all varieties of insanity and patients of all ages. These figures do not represent the total prevalence of tuberculosis during the year, which is better shown by the table of deaths from all causes. This shows that the total number of deaths in the hospital from the opening in 1890 was 1370, of which number 145 were caused by tubercular disease.

When the St. Lawrence State Hospital was first opened for the reception of patients tuberculosis was not commonly met with at autopsy and this fact attracted notice at the time. During the first five years out of 367 deaths from all causes 28 were due in some measure to tuberculosis, a percentage of 7.6, while during the five year period ending September 30th, 1903, among 693 deaths from all causes, there were 94 attributed in some degree to tuberculosis which is a percentage of 13.5. It will be seen, therefore, that death from this disease is on the increase, for during the last five years the percentage was nearly twice as large as for the first five years and considerably above the average for the fourteen years the hospital has been in operation.

In order to fully comprehend these figures and to understand the cause of this increase, it should be borne in mind that during the first five years of the hospital's history con-

Read at the opening of the discussion of the Symposium on the Relation of Tuberculosis to Insanity, at the American International Congress on Tuberculosis, at St. Louis, October 4, 1904.



R. H. HUTCHINGS, M. D.
Superintendent of the St. Lawrence State Hospital for the Insane,
Ogdensburg, New York.

struction was in active process and patients were admitted gradually, so that during that time the wards were never crowded, but on the other hand the air space was unusually large. With the completion of the hospital plans and the gradual filling up of the wards they have now reached a condition in which the wards are well filled and some of them rather crowded, and the cubic air space for patients consequently reduced. Though we have what we consider to be a system of ventilation which is in every way superior, yet there undoubtedly does occur some degree of infection in our buildings, and the number of patients who become infected after admission to the hospital is probably considerably greater than in the earlier years. From the inactive life led by many of the chronic insane, particularly patients in advanced stages of dementia praecox, one would expect tuberculosis to be of frequent occurrence. Their habits are indolent, the exercise but little, some of them none at all, they are constantly picking up any dirt and threads from the floor and putting them into their mouths, and in general terms their mode of life predisposes to this disease, and as would be expected tuberculosis is of frequent occurrence among this class. We have found, however, that among our patients who are able to employ themselves out of doors, at farm or garden work, the disease is but seldom encountered. We have two such buildings known as the Garden Cottage and the Farm Cottage, accommodating each seventy patients, and I can recall but a single case of tuberculosis developing in either building during the past twelve years. This suggests that the insane are susceptible in about the same degree to infection by the tubercle bacillus as the population in general; that among those who live sedentary lives in crowded rooms and those who are employed indoors the disease is commonly met with, while among the patients who live an out of door life it is exceptional for this infection to occur.

In order to segregate the insane suffering with this disease and diminish the liability of other patients and employees becoming infected from them the State Commission in Lunacy has authorized the construction at the St. Lawrence State Hospital of a pavilion for the accommodation of tubercular patients. This is being constructed at the present time and is located on the southernly edge of a grove facing

the south and thoroughly protected from the north and west winds which are the prevailing winds of this section. The building will consist of an east and west wing, two stories in height, with a ward to accommodate eighteen beds on each floor, and having in connection with each ward six single rooms. Between the two wings and extending behind them in a north and south direction is a building containing on the first floor a dining room and kitchen and on the second floor rooms for nurses.

The building is to be constructed of wood and especial care has been devoted to rendering it easily sterilized, and no corners or spaces have been left in the construction where dust can lodge. The windows are numerous and there are wide piazzas to which beds may be removed. It is intended to organize this building upon the most advanced methods and it will be furnished and equipped for careful study and investigation on all questions relating to the prevention and treatment of this disease.

INSANITY IN ITS RELATION TO TUBERCULOSIS.

BY ANNIE BURNET, M. D.,

Assistant Physician Mt. Pleasant State Hospital for Insane,
Mt. Pleasant, Iowa.

The prevalence of tuberculosis in our Hospitals for the Insane is a fact too well known to require elaboration.

If separation of the person suffering from tuberculosis from his fellows is necessary or even advisable in the outside world, surely the need of some way of isolating such cases in the Hospitals for the Insane is much more evident.

Under the conditions prevailing in the majority of State hospitals contagion is almost, if not quite unavoidable. And the restricted life led by the patients in these institutions favors the development of the disease. Hence the frequency of its occurrence and the large percentage of deaths caused by its ravages.

Each hospital could perhaps hardly be expected to maintain a separate section for tubercular patients. The expense would be too great. But in a State where provision is made for the care of tubercular cases why could there not be a section—a separate cottage perhaps—to which the tubercular insane from the several State hospitals could be sent for care and treatment

There are objections doubtless to such a suggestion, but none that are insurmountable we think. Since wards for the care and observation of patients suffering from acute mental disease have been added to several general hospitals (and the sentiment in favor of such arrangement is growing steadily) there can be no reasonable objection made to the plan suggested on the score of mental alienation. The greater economy in management made possible by such a provision would be a strong argument in its favor in the eyes of the average State Legislature.

THE PROBLEM OF THE TUBERCULOUS INSANE.

BY DR. W. S. WATSON,

Medical Director "of Mabopac Lodge," Mabopac, N. Y., for
Nervous and Mental Diseases.

Each day I am more and more thoroughly convinced of the necessity for radical measures in reference to separation of the Tubercular Insane from the non-Tubercular Class; that there is a growing necessity, not only for concentrated action of the medical profession, but the whole people, for the most efficient measures for stamping out this dread disease, no sane person will doubt (for it can be stamped out and as readily as any other communicable disease by the strictest surveillance and proper sanitary hygienic regulations in connection with an ample provision for care and treatment of those already infected). All institution men, know only too well the uncontrollable source of danger of an insane tubercular patient to those living about him, from the indiscriminate dissemination of sputum upon the floors and furniture, its drying, its pulverization, the certainty of its being breathed into the lungs of the healthy patients; it is also a fact that the tubercular patient constantly exhales an invisible poisonous cloud or mist laden with tubercle bacilli, which is easily breathed into the lungs of a healthy person. It is exceedingly difficult to combat by most rigid hygienic regulations among the well balanced, sane persons such a source of infection. The importance of non-infection through the sputum or close contact breathing; it is practically impossible to regulate such a source of infection among tubercular insane when crowded together as is the case in our State institutions. One only need to pass through the wards of the asylums to become familiar

Contributed to the Symposium on the Relation of Insanity to Tuberculosis, and read before the Medico-Legal Society December Meeting, 1905.

with this source of transmission. We have visited many of the asylums for the insane in this and other countries, it was especially true of the Pacific States where segregation of the classes were practically impossible by reason of the overcrowded conditions (State's failure to provide the necessary funds) as at Provo, Utah, where by request of Governor Wells, we visited the wards of the asylum (Utah be it noted has but one asylum) and made an informal report to the Board of Governors then in session in the building. I was asked by the Governor if I saw a chance for improvement. My answer was separation of the tubercular class; and the truly feeble-minded or idiotic, from the strictly insane. The State of Utah had made no provision for such separation, hence, all classes were huddled together. The great State of New York has, to our disgrace, inadequately provided for our tubercular insane. There is no doubt that persons in the early stages of consumption are benefitted by outdoor life, by an abundant, constant supply of fresh, pure air, and wholesome good food, the treatment of the tubercular class in the open air, by tent and the cottage plan in a dry atmosphere, keeping the patient's body positively warm is the accepted, the demonstrated rational method. As it is impossible to rate all men by one general rule, so it is as regards climatic conditions; while a rigorous climate with its accompanying electro-positive conditions are bracing to quite a large majority of cases, while yet in the incipient stages; hence by reason of its nearness to the more populous centers of the United States we strongly favor portions of the Adirondacks, since it is comparatively easy of access and offers the much needed altitude, together with the beneficial effects of ozone from the mountain trees, the resinous emanations from the pine forests, diversity of scene, large acreage of wooded forests, brooks, mountain rambles, out-door diversions which are positively essential to the recovery of the tubercular patient in all climates; (proper food, competent supervision, a carefully chosen regime, based upon a studied individuality are hardly second to climatic influences) we are equally sure there are conditions, classes and stages which cannot do well in a rigorous climate owing to an impoverished anemic condition; who must in order to improve at

all be much exposed to the sun's rays in a warm air rendered as nearly aseptic as possible (to sunshine and dryness of a life in the open) parts of the Republic of Mexico offer, lies the curative powers, together with the possibility everything, viz.: dryness of air, more clear days than elsewhere, freedom from micro-organisms or other irritants, any temperature desired, depending entirely upon altitude; from our own observations we are certain the table lands of Mexico, at an elevation of from 3000 to 4000 feet offer greater advantages to a larger number of persons than any other place perhaps in the world; the best portions of Mexico are much easier of access than the Pacific slope, but is not as accessible as our own northern altitudes before mentioned, in order to rationally provide for the weak anemic class who are unable for any reason (insanity or other cause), to avail themselves of the ideal curative qualities of the Mexican climate referred to, we would have provided in connection with all resorts for the tubercular, sun pavilions maintained during the winter months at an equitable temperature by the radiant heat of the sun, or other sources; in the absence of sunshine we would supply a flood of electric light from large arc lights, under which the impoverished anemic patient's person would be daily exposed for hours to the healing, germ-destroying influence of their chemical, luminous rays.

Lastly, there is no question but the restricted life of the insane of our State institutions predisposed, and is favorable to the extension of tuberculosis.





DR. DENSLOW LEWIS, CHICAGO, ILL.,
Vice President and Member of Council-elect of American International
Congress on Tuberculosis,
Vice President Medico-Legal Society for State of Illinois.

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THE VALUE OF PUBLICITY REGARDING TUBERCULOSIS.

BY DENSLOW LEWIS, M. D., CHICAGO, ILL.,

Vice-President for Illinois of the International American Congress
on Tuberculosis and Member of its Governing Council,
President of the American Association of Life
Insurance Examining Surgeons, 92 State St.

It is impossible to guard against an unknown peril or withstand the onset of a hidden foe. Our first duty in the case of tuberculosis, as in the case of all other conditions that militate against the health and happiness of humanity is to give notice of the existence of danger, to exploit the details of a possible attack, to discover and make manifest the methods of invasion, to arm the citadel against assault, and finally to make known that method of warfare, once the conflict has begun, which experience has shown to be the most efficient in overcoming the forces of the enemy. Our first duty is to tell the truth.

It was my privilege to be present at the initial meeting of the Chicago Society for the Prevention of Consumption, presided over by Mayor Harrison. I protested against the name. My friend, Dr. John A. Robison, told a story. He said a man went into a store to buy a pair of shoes. The storekeeper asked: "What is this talk about tuberculosis?" The man replied, "They mean consumption." "Well," said the shoemaker, "why don't they say so?" This story convinced the majority of the members present. They voted to use the word consumption instead of tuberculosis. And so today our society tells only a portion of the truth. In my judgment, the shoemaker in the story went decidedly beyond his last, and by the very name our society adopted we cripple our usefulness by recognizing only one localization of tuberculous infection.

Read before the American International Congress on Tuberculosis at its meeting in St. Louis, October 3 to 6, 1904.

What is the truth regarding tuberculosis? We do not know it all as yet, but some things we do know. Enough is known to enable us to advise prophylactic measures which a sufficient experience has demonstrated to be of value, and a method of treatment which has proved successful enough to warrant its continuance. Furthermore, as we approach the borderland of actual knowledge, we recognize that scientific deduction permits various recommendations which, from our knowledge of infection in general, and our recognition of the results of clinical experience, must also be of value and importance in reference to tuberculosis.

What of the facts? More deaths occur from tuberculosis than from typhoid fever, diphtheria, whooping-cough, measles, scarlet fever, and small-pox combined. Most of the deaths occur between the ages of 18 and 40 years, in the active working age, during the period of greatest usefulness. Fully one-tenth of all mankind die of tuberculosis, the estimated mortality for the United States being 200,000 per annum* In Illinois alone it has been estimated that the loss of money invested in children who die of tuberculosis under the age of twenty years is \$1,187,800; the loss to the State from the inability of the tuberculous to perform labor amounts to \$30,000,000; the loss of savings of those who die before the end of the producing age, \$5,129,000, and the cost of the care of those sick and comparatively helpless, \$225,000, making an annual economic loss to the State of \$36,551,000 each year.** Nor is this all, for in cases that recover there may be serious and often protracted morbidity, and in the fatal cases there is, on our part, the distress of body and anguish of mind which cannot be estimated, as our loved ones, perhaps after years of suffering, go down to death.

The cause of tuberculosis is the tubercle bacillus. This germ may gain entrance into the body through the lungs, the alimentary canal, or the skin. It exerts its well-known deleterious effect if there is found a soil suitable for its development and environments favorable for its growth.

*Circular of Illinois State Board of Health: The Cause and Prevention of Consumption. 1904.

**Homer M. Thomas: The Annual Economic Loss to Illinois from Tuberculosis. Ills. Med. Journal, Sept., 1904, p. 330.

Such conditions exist when there is debility from any cause, or when unhygienic surroundings are present. This relationship should be well understood by everybody. The tubercle bacillus thrives with difficulty or not at all in healthy individuals under hygienic conditions. It finds an admirable culture medium in individuals whose vitality is lowered from any cause, or whose mode of life or environment is unsanitary.

Tuberculosis is communicable by dissemination of the bacillus. It is not infectious to the same extent as small-pox, measles, and some other diseases, nor is it dangerous to mankind unless there is prolonged exposure under conditions favorable to the propagation and development of the germ. The panic that has occurred in certain health resorts frequented by tubercular patients is as absurd as it is unwarranted, and the restrictive measures that have been proposed in several localities are unjust and unnecessary.*

The recital of these elementary facts regarding tuberculosis is not intended for the edification of this distinguished and learned assembly, nor for the enlightenment of the profession. I venture, in mentioning in this connection what may be called the essentials of our knowledge regarding tuberculosis, to direct attention to the simplicity with which may be promulgated important facts concerning etiology, life history, and mortality as well as suggestions relative to prophylaxis and treatment. These essentials should be known by everybody. In the public school, in the family, in the secular, religious, and professional press, in season and out of season these truths should be enunciated until the whole world realizes the danger that is imminent and seeks safety in increase of knowledge regarding the peril that is ever present.

The matter of first importance is to help the people to help themselves. First of all, let them know the truth. Let them realize the nature of this dread disease, its mode of onset, its course, its dangers to the individual infected and to others who come in contact with him, and above all else let there be a thorough understanding of the conditions that favor the development and spread of the bacillus which is its exciting cause. In the dissemination of the

*Harold N. Moyer: *The Duty of the State in Restricting Tuberculosis*. Ills. Med. Journal, Sept., 1904, p. 324.

truth regarding tuberculosis the value of publicity is incalculable. Our fear of this devastating plague is allayed because its nature is understood. Its advent is anticipated, for the danger signals are seen in time. The predisposing causes are appreciated; the premonitory symptoms are recognized; prophylaxis is encouraged, and rational treatment is instituted without delay. In addition, the patient with tuberculosis is taught to defend himself against his disease, and is brought early under conditions which make possible his recovery. These results are attained by a consistent and well-advised publicity. In the promotion of judicious knowledge regarding this subject, which affects the well-being of all mankind, I offer respectfully certain considerations, which are the outcome of my experience and observation in different countries of the civilized world. I advocate publicity regarding tuberculosis, but I also beg leave to insist on the promulgation of knowledge relative to life itself, and, as a protective measure to all, I venture the assertion that the State must eliminate, as far and as rapidly as is practicable, those conditions which modern science has demonstrated to be inimical to the welfare of its citizens. The constitutional guarantees which refer to life, liberty, and the pursuit of happiness, must not be invoked to interfere with the plain duty of the State in enforcing salutary measures which tend to ameliorate the condition of humanity.

Health is of supreme importance. The best heritage a child can receive is a sound constitution, and the best education that can be given is the systematic development of bodily functions, and their consistent correlation.* Disastrous in the extreme are the consequences of any deviation from the strictest concern for this most important matter in the child's development. Education, as the term is generally understood, is a failure and a farce if due regard is not had for the child's well-being. All that may be learned is the veriest folly if health is lost in the learning. All the accomplishments of the world are valueless if, in their acquirement, the constitution is undermined.

It is no longer believed that tuberculosis is hereditary, except in very rare instances, when the bacilli gain access

*Denslow Lewis: *The Child's Proper Development*. *Doctors' Magazine*, Vol. 1, p. 25.

to the body before birth—the so-called cases of congenital tuberculosis, nine or ten instances of which, according to Osler, have been described in man. The infant, however, is capable of being infected from the first moment of its birth, and it is found, both with infants and with calves, that if they are removed at once from tuberculous mothers, they remain free from tuberculosis.*

The infant of a tuberculous mother must be provided with a healthy wet-nurse or fed on modified milk. Without here theorizing in regard to the relationship of bovine to human tuberculosis, it is proper to say that it is the part of wisdom to pasteurize all cow's milk supplied to infants. Knowing the high mortality of all infantile life, and realizing that the infant of a tuberculous mother, even if free from tuberculosis, is likely to be debilitated, or at least relatively deficient in vitality, it is imperative that such an infant shall receive special care, and be placed early under the best hygienic conditions. In several large cities provision is made for a free distribution of pure milk, and everywhere a sterilizer should and can be made available even to the poorest citizen. All municipalities can prohibit the sale of impure or adulterated milk, not alone because of the possible presence of the tubercle bacillus, but chiefly because of the importance of supplying a nutritious food upon which the infant may thrive. All infants are potential citizens of the State, and have the right to live. If the home is unsanitary, if the infant for any reason cannot there receive the special care that its welfare demands, a temporary home should be provided, very much on the plan that has been adopted in the case of the illegitimate,** so that this inherent right of the infant shall not be abrogated. Such a provision, moreover, enables the State to fulfil its manifest duty to act, when necessary, in loco parentis, in the case of all dependents.*** In addition, such action, while humanitarian and philanthropic, is economic in the highest degree. It is impossible to appraise the value of rational supervision of this character at an early age, not only in instances of tuberculosis, but also in the case

*Alfred Hillier: *The Prevention of Consumption*, p. 27.

**Hastings H. Hart: *The Physician and the Illegitimate Child*. *Ills. Med. Journal*, Aug., 1902.

***Denslow Lewis: *The Management of Our Charity Hospitals*. *Ills. Med. Journal*, March, 1903.

of all dependents, defectives, and delinquents. It is a rational prophylaxis, and if consistently applied would be of inestimable advantage.

In the case of children, systematic inspection, and the diffusion of accurate knowledge is of great importance. We have inspectors of different kind, we have school-teachers, and we have the police. In large cities we have dispensaries for the poor, and throughout the world we have the medical profession and its members stand ever willing to give counsel and advice, if need be, without cost. Let everybody know about tuberculosis, and appreciate the fact that debility and unhealthful surroundings are predisposing causes. Let the schoolteacher view with suspicion the poorly nourished child. Let the factory inspector, who makes sure that no child is employed under legal age, also take note of the health of the children, and the sanitary environments of the factory or shop. Let the police officer on his beat observe the conditions of the residents of his district, and let him report what he finds. The weak, sickly child is in danger. The anaemic child is a candidate for tuberculosis. Deficient hygiene and insufficient and improper nourishment favor the development of future dependents upon the State. Education must not be sought to the injury of any child's health. It is better to do without schooling than to impair the child's constitution.

Above all others, parents should realize the possibilities in reference to their children. They should understand what constitutes hygiene, and must know that many of the luxuries with which they surround their children are often detrimental and dangerous. The child is essentially a young animal, and should be fed and cared for at least with the same consideration that farmers bestow upon their stock. The question should not be raised if a certain article of diet will hurt the child, but the parent should consider if it will do him any good. The mistake should not be made of attempting to "harden" the child by submitting him to undue exposure, but the value of pure air and sunshine should be appreciated. Above all the physician should be consulted while the child is well. Judicious professional advice, taking cognizance of all surroundings and realizing all possibilities, is of importance in directing

the daily life of the child, so that any developmental error may receive timely attention, and any faulty method which interferes with the child's well-being may be corrected.

Philanthropy does much for the care of the children of the poor. In providing country outings, fresh air, sanatoria, and the creche, there is a consistent attempt to improve conditions. Moreover, it must be understood that pulmonary tuberculosis is not the only form of the disease. In children especially the bones or the abdominal viscera may be infected. The dispensaries and hospitals of our larger cities care for these cases, but almost always ignorance is responsible for unfortunate delay in providing proper treatment in time. The public should know regarding manifesting manifestations of tuberculosis other than pulmonary.

Where the adult is concerned, a new duty arises. Publicity has now other facts to include in its dissemination of the truth regarding tuberculosis, and other conditions to consider. The question of occupation, habit, temperament and environment must receive attention, and serious thought must be given to economic relationship in many ways. In addition to imparting information regarding the tubercle bacillus, the danger of infection, and the predisposing and fostering conditions that exist by virtue of unsanitary surroundings, we must also appreciate the value of consistent sanitation to the fullest extent, and in this appreciation we must combat poverty, immorality, and crime, and counteract, oftentimes, dependency and degeneracy. In a word, the publicity which is to be of real value must favor prosperity and must try to solve the problems of an incomplete civilization.

It is impracticable in this connection even to mention the various methods in which an enlightened prophylactic endeavor will find expression. With the realization that all cosmic influences, all life processes, all economic relationships bear upon this important subject, comes the attempt at the improvement of all local conditions, and the amelioration of mankind in every way. In the effort to provide an abundant supply of pure air, an adequate supply of pure water, and a sufficient supply of pure food, the government—municipal, state or national—must act intelligently for the common good. The interests of capital must

not be allowed to supersede the interests of the community. Building laws should exist and be enforced so that the disgraceful tenements of our slums become an impossibility. Indeed, it were well if the law regarding all dwellings, as is the case in Berlin, permitted the owner to build upon only two-third of his lot, and above all things, it were most desirable if existing laws regarding plumbing ventilation and other hygienic measures were not so often a dead letter. The airing of cities has not received sufficient attention nor has adequate provision been made for free parks. The value of trees, plants and flowers as a means of purifying the air is not fully understood. A pure water supply and facilities for its use internally and externally must be provided. Food should be inspected and when found impure should not only be condemned, but destroyed. Moreover, the drainage of all dwellings, the cleaning of the streets, the removal of garbage, the abatement of the smoke nuisance, should receive more attention in a practical way commensurate with the importance of such matters, not alone for utilitarian reasons, but because we realize the relationship of public hygiene to the spread of tuberculosis.

The question of occupation, and regulation of shops and factories is of especial interest, for the danger of overcrowding amid unhygienic surroundings is known. Our public conveyances, our trolley cars and railroad trains must be inspected, and our sleeping cars should be disinfected at frequent intervals. Our prisons and jails are often a disgrace to our civilization, and our lodging houses are a very hot-bed of infection. In connection with every municipal institution of this character, there should be a disinfecting plant, similar to the etuves of Paris. The tramp who secures a night's lodging should start out in the morning with a clean body, and his clothing properly sterilized.

In the consideration of occupation and residence as a predisposing cause of tuberculosis, we are met by a sociological problem of the utmost importance. The man must live, he must support his family, by his work alone can he gain a livelihood. To remove him from his surroundings may mean to pauperize him as well as his family. Right

here the situation must be faced, and there should be no compromise. If the environments are unhygienic, especially if the man is unhealthy or already infected, he must move, and some agency must see to it that neither he nor his family starve. The citizen is the State's most precious charge, and his welfare should be its most important care. He has a right to demand protection from disease, and provision must be made in case of illness—actual or threatened—as in other forms of dependency. With tuberculosis in question, there is the additional and selfish incentive to action, because the man becomes a source of danger to others. Moreover, we know that treatment—either prophylactic or therapeutic—to be of the greatest service, must be applied at the earliest moment possible.

The practical methods to be applied in these cases are easily understood, but difficult of application. The Bismarckian scheme of insurance, which provides indemnity against old age, accident, sickness and death for all whose income does not exceed \$500 a year, is a philanthropic effort, the efficacy of which has been demonstrated.* The institution of *Kassen*, or clubs, in Germany, brings immense clinical experience to certain specialists, and enables them to teach practically in a manner nowhere else possible in the world, but the chief advantage of such a system of compulsory insurance is the facility with which the poor receive timely treatment, and suitable financial help, in case of need. Such a system of insurance finds a parallel in our industrial companies, which, in default of governmental decree, offer an opportunity for the workingman to protect himself and his family against disaster due to loss of wage. Publicity benefits humanity by directing attention to this possibility, and it is not improbable that in the future the State may find means to protect itself, in some satisfactory manner, against these charges on its bounty.

For the present, each community in some way must attempt the care of the consumptives, and in many instances an enlightened public sentiment provides help and food for the wage-earner, deprived temporarily by illness of his wage, and this assistance has extended, when necessary, to his family as well. The report of the committee on the

*Sanftenberg: "Die Deutsche Krankenversicherung." P. Reclam, Jr., Leipzig.

prevention of tuberculosis of the charity organization society of New York* shows how efficiently combined effort may accomplish definite results. The personal hygiene of the consumptive and the danger from infection to himself and to others have been detailed by many writers ably and fully.** The success of institutional treatment in high altitudes, and at home, is fairly well understood. The fact that tuberculosis is a curable disease is giving energy to renewed effort. We are studying with care the relation of intemperance and venereal disease*** to tuberculosis, and we begin to appreciate in this connection the value of education regarding the use of alcohol and the important subject of sex relationship.****

There is still much to learn, but the essential fact to remember is the necessity at present of disseminating the knowledge that we already have. We must force home the truth about tuberculosis so each may know of his personal danger. We must warn against predisposing causes, and, to guard against the spread of the disease as we would against a conflagration, we must give attention to every case of infection as we would put our foot on every spark. The study of preventive measures in tuberculosis demonstrates again the dependence of each man upon his brother man, and is an object lesson in altruism. The appeal for the rich to help the poor has a new significance, and a personal and selfish interest, when it is realized how the disease may extend from one to the other. The necessity and the possibility of eliminating tuberculosis should cause a public awakening to each citizen's responsibility. The dissemination of knowledge founded on fact, a consistent humanitarianism, a combined effort, a glorious and successful result—all these are made possible by a well-advised and determined publicity.

*A Handbook on the Prevention of Tuberculosis: Being the First Annual Report of the Committee on the Prevention of Tuberculosis of the Charity Organization Society of New York, 1903.

**S. A. Knopf: "Tuberculosis as a Disease of the Masses, and How to Combat it."

***Valentine and Townsend: The Relation of Gonorrhoea to Life Expectancy. Medical Examiner and Practitioner, July, 1904.

****Denslow Lewis: The Limitation of the Venereal Diseases. Medico-Legal Journal, June, 1903.

ADDRESS.

BY DR. W. H. MOOREHOUSE,

Vice-President-at-Large of the American International Congress on
Tuberculosis and Delegate from Ontario, at the opening of the
Congress, at St. Louis, October 3, 1904, of London, Ont.

Mr. Chairman, Ladies and Gentlemen:

It gives me much pleasure to be present at this very important meeting, and upon such an important subject as that before us.

In Canada, the country from which I come, we have endeavored to keep pace with the judicial advancement and requirements of the age.

In the Province of Ontario, we have a law passed by our Legislature, by which every municipality is empowered to erect and maintain tubercular sanatoria. We have also a large institution, of this kind, in Yuskoka, a region peculiarly adapted for this work. This is called "A Free Hospital for Consumptives," and is our National Sanitarium for Tuberculosis. It is chiefly maintained through public subscriptions.

We have also circulated literature through the public press and otherwise, dealing with this dread scourge, tuberculosis; also free public lectures have been given for the urpose of educating the masses, pointing out the great necessity of ventilation and cleanliness. This, along with certain sanitary laws, such as the anti-spitting law, has been the means of enlightening and reforming the great uneducated public.

The use of text books in our public schools, along this line, will in time bring forth abundant fruit.

ADDRESS.

BY DR. SOPHIA HINZIE SCOTT,

Of Des Moines, Iowa, at the Opening Ceremonies of the American
International Congress on Tuberculosis, at St. Louis, October 3;
Delegate from the Society of Iowa Medical Women.

Mr. President and Delegates to the American International
Congress on Tuberculosis:

It gives me great pleasure to extend to you greetings from the State Society of Iowa Medical Women. We are unique in being the only medical society of women in the world. The City of Des Moines is proud to have the distinction of a Professional Women's League, composed of doctors, lawyers, ministers and special teachers. Here two organizations during the past few years have studied sociological and medical questions.

The past year the two societies have become very active in arousing public sentiment to the imperative necessity of putting forth every effort in the prevention of tuberculosis and venereal diseases.

Women physicians are giving lectures to Mothers' meetings and other clubs of the city.

They have succeeded in creating public sentiment to the extent that it is now deemed advisable to advocate the teaching of hygiene and physiology, including sex physiology in the public schools. The prevention of tuberculosis will receive due consideration. We believe that a great campaign of education is necessary, both to parents and children, before these great evils can be successfully combated.

The Thirteenth General Assembly of Iowa authorized the Board of Control of State institutions to investigate the extent of tuberculosis in Iowa and the best means of prevention and treatment of the disease, and report its findings to the next General Assembly.



**VICE PRESIDENTS OF STATES AND OFFICERS OF THE AMERICAN
CONGRESS ON TUBERCULOSIS.**

DR. MARY D. ARDERY,
Vice President for Iowa,
President Iowa State Society for Medical
Women, Knoxville.

DR. SOPHIE HINZIE SCOTT,
Vice President for Iowa, Des Moines.

MARCUS MARKIEWICZ, M. D.,
Vice President of the Congress for New York,
Ex-Member Council, N. Y. City.

DANIEL E. LECAVALIER, M. D.,
Editor Montreal Medical Journal,
Vice President for Quebec, Montreal, Canada.

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Blanks were sent to 3,532 physicians throughout the State for a full report of tubercular cases. The following results were obtained:

1013 physicians reported no cases.

1349 physicians reported one or more.

Sixty-five per cent. have responded which is considered good. It is desired that every physician in the State will be heard from before the next Legislature convenes. We hope that the board will make such recommendations as will be instrumental in bringing about results in this great humanitarian work. We believe that Iowa is as active as any State in the Union on this vital question.

You may depend upon our hearty co-operation and we wish the Congress great success.

INAUGURAL ADDRESS

OF

CLARK BELL, ESQ., LL. D.,
President of the Medico-Legal Society.
Pronounced January 18, 1905.

Fellows of the Medico-Legal Society, Invited Guests and
Friends:

I had hoped that I should be permitted to pronounce my retiring address this evening, instead of again assuming the duties of a chair, where the honors won by the Society in the year just closed have by far exceeded that of any previous year in the history of a body, that has made its name and work known and recognized throughout the world. The Medico-Legal Society can point with pride to many achievements in the science to which it has been devoted since the year 1872, when I first assumed the distinction you have so generously and unanimously conferred upon me for so many times.

We have reached nearly the third of a century in the history of the development of the Science of Medical Jurisprudence on the American Continent, in which the Medico-Legal Society has borne such a conspicuous part.

It may not be out of place to look backward over these eventful years, so closely related and identified with, the growth and development of the Science of Forensic Medicine, and to see how this body has kept pace and step with the splendid and stately march of the progress and growth of that civilization which has placed the flag of our country in the fore front among all the nations on the globe.

I have not the time, nor is this the place or hour to recount the various achievements of this Society in these intervening years that equal what is usually regarded as a generation among men, but I would be recreant to my duty and false to the fair fame of this body if I neglected to point with lofty pride to the splendid culmination of its long protracted and arduous labors, at the St. Louis Exposition in October, 1904, in the successful holding of an In-

ternational Congress on Tuberculosis under the direct patronage and support of the Government of the United States, in which this Society sat in joint session with the American International Congress on Tuberculosis, which had been organized by a Committee of Organization, appointed by the President of the St. Louis Exposition, and of which the President of this Society was named as chairman, composed mainly of those men who had held the highest and most honorable positions in this body.

That Congress had been called to consider and pass upon what has been well said were the highest questions on Forensic Medicine that had even been brought to the attention of the civilized scientific world. The questions of how far and by what legislative action the dreadful ravages of consumption could be arrested, averted or prevented.

The invitations to all the Governments within the Western Hemisphere, embracing both the Continents of North and South America and in the American waters adjacent to the Continents were transmitted by the Government of the United States, through its diplomatic corp, to all these Governments and the sympathy and cordial co-operation of the American Government conveyed to each, in the following splendid, humane and sympathetic language by the Hon. John Hay, the American Secretary of State.

I quote from the circular sent to the Government of Great Britain, Denmark and all Countries having Colonial, Provincial or Dominion Governments within the Western Hemisphere and to the Spanish-speaking Republics:

The Department is also advised by Mr. Clark Bell, Chairman of the Committee of Organization of the Congress, that the Executive Committee and Officers of the Congress have sent to the Government of each American Country an invitation for official representation by that Government, in the Congress; and the request is made of the Department to give such support to the invitation as it properly may.

The humanitarian object which this Congress has in view to reach, by the discussion of scientific men, some result in arresting the spread and averting, so far as it may be found possible, the ravages of this dreadful disease which now falls with such terrible force and fatality upon the people of the Western Hemisphere, cannot but enlist the sympathy and approval of the Government to which you are accredited.

The Department will, therefore, be pleased to have you say to that Government that this Government is in sympathy with the work of the proposed Congress, and would be pleased to learn that the Government of.....took a like interest in its success by the acceptance of the Committee's invitation and the appointment of three or more scientific gentlemen to represent it at the Congress.

This Government would also be pleased if that of.....
.....could find it convenient to comply with the request of the
Committee to give the matter publicity in order that it may come
to the knowledge of interested organizations and public spirited
citizens of that country.

The work of that Congress, the organization of which has
been placed on superb and splendid foundations, is now a
part of the history of our times. It will remain long after its
prime movers have passed into the Infinite, the brightest
star in its constellation of successes and the Bulletin of its
transactions will remain the most enduring record of the
most brilliant of its achievements and labors.

THE PROGRESS OF THE SCIENCE.

Our English cousins have recently organized in London,
under most favorable auspices, a Medico-Legal Society,
and have sent to your President the first volume of its
Transactions for the years 1901, 1902 and 1903 Its Presi-
dent, Sir Wm. J. Collins, M. D., M. S. B Sc. (London), F.
R. C. S. No. 1, Albut Terrace, N. W. London, is an emi-
nent man in his profession. He was the first President
who held the office in 1902, and was re-elected in 1903, and
as I believe re-elected in 1904. I have the honor, and it
gives me great pleasure to recommend his name for elec-
tion as an Honorary member of this body.

ADDITIONAL RECOMMENDATIONS.

I also desire to call attention to the action of Honorable
Francis B. Loomis, Assistant Secretary of State, whose
sympathetic action in his official position and his signal
ability and eminent services, has, in the opinion of your
President, entitled him to have the expressed recognition
of this Society, and I recommend his election as a Honor-
ary member.

I recommend also for the same high position Dr. F. E.
Daniel, of Austin, Texas, Editor of the Texas Medical
Journal, First Vice-President of the American Interna-
tional Congress on Tuberculosis for 1904, when he ren-
dered signal and able service now President-elect of
that body and also President of the State Medical Associa-
tion of Texas. He is in my opinion entitled to this dis-
tinction.

I recommend that Dr. E. J. Barrick, of Toronto, Ontario, late President of the American International Congress on Tuberculosis, be made an Honorary member of this Society in recognition of his great service to the cause of Forensic Medicine in the presidential chair of that body for the years 1903 and 1904.

Prof. Dr. Otto von Schroen, of the Royal University of Naples contributed to the American International Congress on Tuberculosis a most valuable and interesting paper which defines and illustrates his discoveries in the Pathology and Bacteriology of Tuberculosis entitled "The Pathogeneous Microbe and the difference between Tuberculosis and Phthisis of the Lung," which was read before the Society has been translated by the Hon. Moritz Ellinger, a part of which is now in type and will appear in the current number of the Journal of this body. In recognition of this valuable contribution I recommend that he be elected an Honorary member of this body.

I have the honor to recommend the continuance of the Standing Committees of this body on legislation, with instructions to continue to urge upon the Legislature and to bring to the attention of the public the urgent necessity of the repeal of the objectionable Lunacy Legislation fastened upon the State by ex-Governor Odell. This Society should also urge upon Governor Higgins, the Legislature and the public press:—

1. That all executive powers should be taken away from the State Lunacy Commission and that its powers should be advisory only and not executive.
2. That in the management of State Hospitals of the Insane, the care and treatment of the insane, and all other charitable institutions, no official, superintendent or attendant should be appointed, removed or suspended for political or partisan considerations.
3. That the true policy for the State in the management of its State Hospitals, and as to the support, maintenance, care and treatment of the insane and all the defective, indigent and dependent classes should be in all respects con-

ducted without regard or resort to any partisan, political purpose as such, and should be wholly removed from the domain of partisan politics.

PUBLIC BENEFICIAL USES AND CONVENIENCES IN NEW YORK CITY.

I wish to call attention to the great boon, pleasure and benefit derived by the citizens of this metropolis from the free public urinals now existing in the grounds, at and near the city hall, in City Hall Square.

I regard these urinals as a public blessing and I desire to present them to the government of the city as an object lesson of what its policy should be, to increase the same as soon and as fast as possible into other streets of the crowded thoroughfares of this great city.

I recommend that a select committee be named to press this subject upon the city government with instructions to co-operate with all bodies or persons who will aid in effecting this result and report their action to the Society. The reports of the sections of the Society and the new officers and members of each section are submitted herewith for your ratification and approval.

Having retired from executive work in the American Congress on Tuberculosis, and submitting its new officers that have taken up this work for the coming year, I shall have more time to devote to the labors of this Society, and I offer my hearty thanks for the honor again bestowed upon me and shall renew my labors for the success of this body which has been for so long my highest aim.

NOTE.—The recommendations were unanimously adopted, and the names recommended unanimously elected Honorary members.



PROF. DR. OTTO VON SCHROEN,
Royal University, Naples, Italy.

PROF. DR. OTTO VON SCHROEN,
Of the Royal University of Naples, Honorary President of the
American International Congress on Tuberculosis of
October, 1904, Honorary Member of the Medico-
Legal Society of New York.

BY CLARK BELL, ESQ., LL. D.

This eminent man and scientist was honored at the recent session of the American International Congress on Tuberculosis, held at the St. Louis Exposition, October 3, 4 and 5, 1904, by an election as one of the Honorary Presidents of that body for his contribution to that Congress of his paper, entitled "The Patheogeneous Microbe of Phthisis of the Lung."

It was his contribution to the Pathology and Bacteriology of Tuberculosis.

The paper was written in the German language and he sent also an analysis and resume of it in the Italian language. He sent with it to the chairman of the Committee on Organization of the Congress most beautiful illustrations of his research and discoveries for reproduction in this country 64 plates splendidly executed.

The paper was read also before the Medico-Legal Society of New York by the Corresponding Secretary, Moritz Ellinger, Esq., and that body directed that it be translated and published in the Medico-Legal Journal. Hon. Moritz Ellinger has the translation of the paper well nigh completed, and the first part of this translation will appear in this number of the Journal and the whole brought out shortly to go into the Bulletin of that Congress.

Prof Von Schroen claims to be the discoverer of a new parasite essentially different from the microbe bacillus of Koch and which he here describes.

His paper treats of the pathological difference between simple Tuberculosis and Phthisis of the lung.

Read before the Medico-Legal Society and Psychological Section,
February 15, 1905.

He supplements the splendid discoveries advanced by Koch at Madgeburg in 1884 and Berlin in 1886, by his announcement of the Phthisigenous Microbe of Phthisis of the lung.

He presents with this announcement the carefully detailed illustrations of his researches the existence of a new form of parasite entirely distinct from the microbe discovered by Koch, which is produced in what is called the last stages of the disease when the fatal symptoms develop suddenly or what has been called "quick consumption" or galloping consumption."

Prof. Von Schroen claims that the Phthisiogeneous Microbe of Phthisis of the Lung is fatal in its work and is not controlled by or amenable to the remedies which arrest the ravages of the tubercle bacillus.

That consumption is curable; phthisis never.

That no case of real phthisis has ever been cured.

He describes in most graphic language how this new parasite works, beginning as a tiny thread, at first straight then slightly curved, then extending and forming a closely wound ball around the nucleus of the cellular protoplasm. That these develop, increase and divide themselves into arborescent fructifying branches and assume pipe like form which englobe and destroy the cellular protoplasm. That capules then appear that resemble spores, that increase in volume, granulate, dissolve their own substance, again assume the thread like appearance and renew the same processes and thus form the cavities where is the home and seat of the work of this microbe, but not necessarily always of the tubercle bacillus of Koch.

Prof. Von Schroen claims to have discovered a process of vividly coloring this new parasite, and that by this means only was he able to identify it and distinguish it from lung tissue.

He has also traced and is able to distinguish and discriminate between the specific crystals searched by this parasite and those of the tubercle bacillus of Koch.

He defines now a new triangular prism from this parasite which he calls "the true Phthism crystal," this he had before his later discoveries called the rhomboid of tuberculosis, which error he now corrects.

He now detects the presence of the microbe by its specific crystal in the sputum long before the microbe itself can be found after the most careful search in the tissues.

He asserts that the microbe actually at work in the apex of the lungs does not emerge until the bronchial tubes are eroded, but that these tiny crystals, white as mother of pearl and sharp as needles, emerge through the tissues and are expectorated and form reliable sources of accurate diagnosis where no microbe has yet appeared.

Prof. Von Schroen does not announce that he has yet discovered the toxin of phthisis as distinguished from tuberculosis.

He believes that it must be looked for only in the phthisiogeneous microbe itself.

He does not claim to have the serum yet, but claims to have the pure culture of the microbe only in pendent drop under the Schroen globe.

He believes that he will soon have the serum and to rear it in vitro and to produce the toxine which he hopes may secure immunity.

He asserts that he has found the phthisiogeneous microbe, commencing its ravages in case of ordinary tuberculosis, both existing and where a cure has been effected, and he also asserts that he has found the microbe of phthisis in genuine cases where he has not yet been able to demonstrate the previous existence of tuberculosis.

The public press in Italy and elsewhere has published accounts of his discovery, which he has furnished to the writer.

Dr. Kolbenheyer, of St. Louis, a member of the local committee on organization of the American Congress on Tuberculosis, explained in our language to the Congress, at St. Louis, the principal points of Prof. Von Schroen's paper, to which reference has been made and Hon. Moritz Ellinger did the same before the Medico-Legal Society, where the paper was presented in the German language.

The American translation now appears for the first time.

The New York Herald, of Jan. 15, 1905, published a most interesting article announcing Dr. Von Schroen as the discoverer of "The True Microbe of Phthisis."

The Phthisiogeneous Microbe which differentiates "galloping consumption or phthisis from ordinary tuberculosis,

from which extracts are made from the pen of Mary Scott-Uda, who gives the language of the learned professor, in many instances with cuts, as they appear in that great Journal. Mary Scott-Uda says:

From the earliest times there have been eminent doctors who perceived and asserted a pathological difference between simple tuberculosis and phthisis, notwithstanding the fact that the medical science of the day did not, as yet, suspect the existence of active organic life in either disease. The startling discovery of Koch in 1882 of the microbe of tuberculosis seemed destined to put an end to scientific wrangling over the various forms of the disease and to conclude for the oneness of the process. The great clinic schools, dazzled by the glory of the new gospel, thenceforth admitted a difference only of quantity, not quality, between tuberculosis and phthisis and referred to it all the changed and conflicting symptoms observed.

* * * * *

Science, however, has her reserves. Amid the plaudits of the great congress of Madgeburg in 1884 and that of Berlin in 1886, which hailed the discovery and methods of Koch as the Ultima Thula of microscopic research one voice, that of Otho von Schron, was heard declaring them to be not the last, but the first step in an interminable series.

The microscopic study which followed this bold declaration has astonished the world with revelation of the organic life of crystals and of the petrocellules of igneous rocks, demonstrating beyond question the biological unity of the three kingdoms of nature, animal, vegetable and mineral.

NEW THEORY ADVANCED.

Of these subtle and brilliant discoveries the Herald has already published a detailed account; but these were bypaths in which the genius of the man who is today considered the most careful microscopist of Europe paused in the arduous climb to a living truth. He gathered there'n proofs of life where death seemed master; of force where inertia seemed to prevail; of beauty where seemed only decay; but the fine end and aim of Otho von Schron's life for the last twenty years has been to substantiate the bold assertion of Madgeburg.

He has at last done so, and now announces to the world the second great discovery in phthisis, the existence of a form of infinitesimal life new and entirely distinct from the bacillus tuberculosis discovered by Koch, to which he gives the name of the phthisiogenous microbe.

It was a lovely afternoon in last June that I climbed the four stories of the house in Naples, overlooking the bay, where Schron has his laboratory. The kind Professor, whom I have known for many years, himself had called me:—

"Come and tell your people across the seas the great news.

"The cause of consumption is defined. We know at last what we have to fight—a new parasite, essentially different from the tubercular microbe of Koch, naturally refractory to the remedies applied, sometimes successfully, in tuberculosis, a parasite which produces what is called the last stage of consumption, developing the sudden fatal symptoms, so dreaded by doctor and patient, of hectic fever, night sweats, rapid decay—in short, florid phthisis, or galloping consumption. Come and see!" So saying, the master, his discoveries had been made.

"Look," he said eagerly, "this is a bit of pulmonary tissue. Do you see the innumerable violet ramifications spreading over and through the cellule? See how they lengthen and twist until they form a closely wound ball around the nuclues. It is the cobweb of death, the grim spider. Thus far he has had it all his own way. No case of real phthisis has ever been cured. Mark, as they develop, how these threads increase, divide in arborescent branches. Here again they look like tubes which englobe and destroy the cellular protoplasm. Now capsular excrescences appear which have the form of spores that grow in volume, become granules, dissolve their own substance, again become threads, new cobwebs around new cells, completing the cycle, renewing the process, consuming the pulmonary tissue and eventually forming the so-called lung caverns in whose product the microbe of Koch is often found wanting, the phthisiogenous microbe never.

"This micro-organism, which in comparison with the bacillus of Koch might be almost called a microbe, appears in the beginning as a tiny thread, first straight, then slightly curved, a kind of cross between the streptotrichee and the iphomaceti, though differing from both in structural peculiarities and in its absolutely vast proliferation.

"I will say here that an essential part, perhaps the *raison d'être*, of the discovery of Schron, lies in having found the means of coloring vividly this new parasite formerly indistinguishable from the lung tissue."

.

"What do you consider the practical value of your discovery?" said I, anxious, like most laymen, more to learn the cure than the cause.

"First of all," said the Professor, "accuracy of diagnosis. For the last ten years the remarkable success I have had in treating consumption has been due to having detected the presence of the microbe by its specific crystal, which appears in the scarce sputum of the patient long before the closest scrutiny can discover the bacillus itself.

PRESENT CONDITION OF THE WORK.

"What I now declare and demonstrate in a series of irrefragable scientific preparations means the crumbling of all our fundamental ideas on tuberculosis and phthisis. It is evident that the bacillus of Koch can no longer carry the weight of an undue responsibility. Its local destructive powers, which lie mainly in the great resistance of the germs, are reduced to a minimum in comparison with the rapid devastation of the phthisiogenous microbe. That the tubercles of Koch may and do exist in large colonies without creating profound general changes, fever, caseification and the like is known to all. In short, tuberculosis need not and does not, except through other complications, necessarily destroy life. It can be cured.

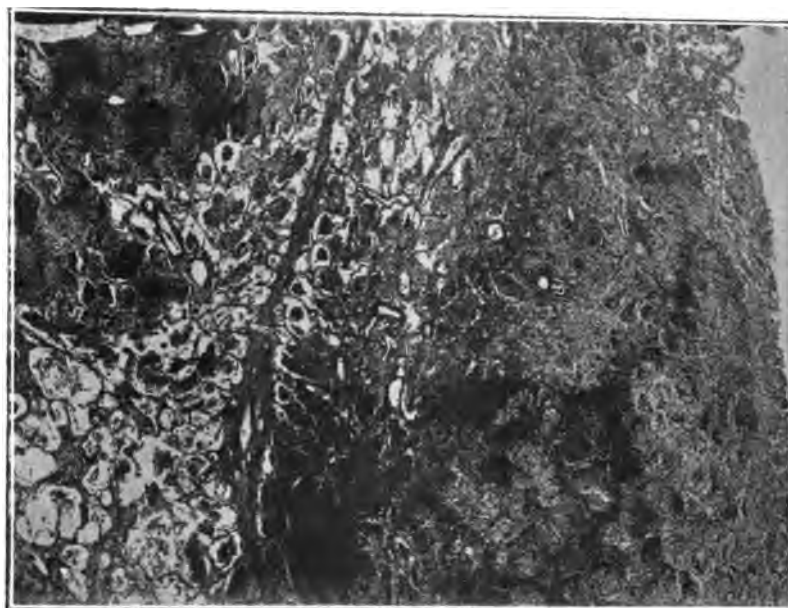
"On the other hand, I declare and demonstrate that the gaseous matter thrown off from the lungs of consumptives, hitherto considered by us all as a mortified substance, incolorable, decomposed, a species of lung detritus, is, instead, a new micro-organism in the form of a large microbe highly organized, which I have succeeded in coloring strongly and which attacks and absorbs the lung tissue and in turn degenerates. At present phthisis is absolutely fatal, but on the basis of the important experimental difference I have shown a new pathology may arise, sweeping away present systems and bringing relief and hope to suffering humanity."

He longs to meet the tremendous issue—so largely involving the fate of humanity, at every point; to institute popular classes on

tuberculosis and phthisis, wherever prophylactic and rational cure would be taught, where the consumptive would become his own most capable physician.—From the N. Y. Herald of Jan. 15, 1905.

This article, of which we regret not to have space for it all, and the first part of the translation of the paper of Prof. Von Schroen will be sent to the members of the American Congress on Tuberculosis and to the students of the pathology and bacteriology of tuberculosis in those countries whose Governments were invited by the United States Government to take part in the work of the St. Louis Congress, with the announcement that the contributions to the Pathology and Bacteriology of Tuberculosis had been ordered held open by the Executive Board of that Congress until July 1, 1905, so that contributions could go into the Bulletin of the Congress.

Any student desiring to contribute will receive a copy of the same by addressing the writer.



No I.

Micro-Photographic Illustration of a Specimen of the Phthisiogeneous Microbe in Chronic Phthisis of the Lung. On the right, Lung Cells and Cheese-like Mass; on the left, large Cheese-like Mass.



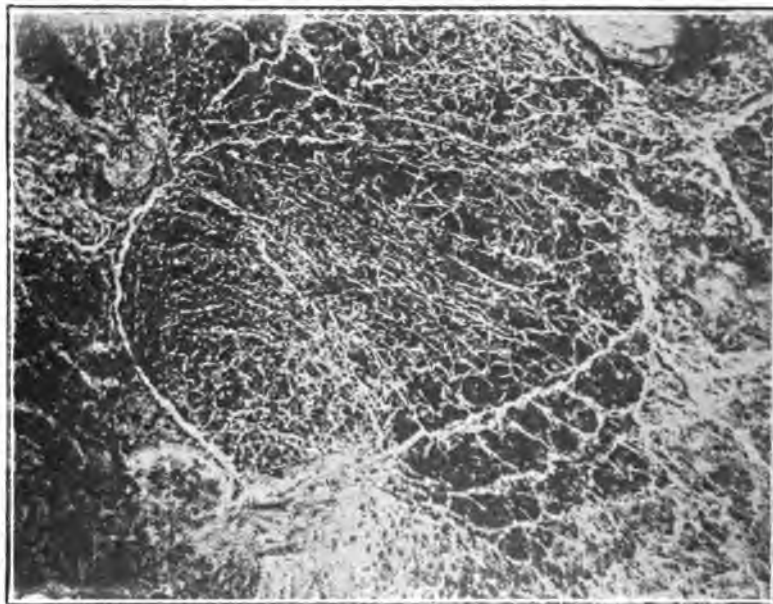
No. II.

Micro-Photographic Illustration of a Specimen of the Phthisiogeneous Microbe in Chronic Phthisis of the Lung. Large Cheese-like Mass in Chronic Phthisis of the Lung.

THE PHTHISIOGENEOUS MICROBE IN PHTHISIS OF THE LUNG.

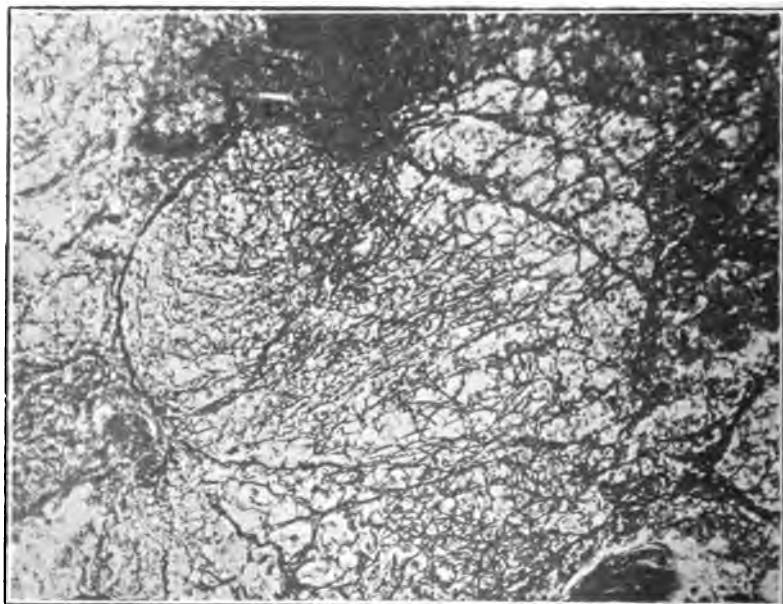
A Collection of Illustrations of the Phthisiogeneous Microbe in Phthisis of the Lung.

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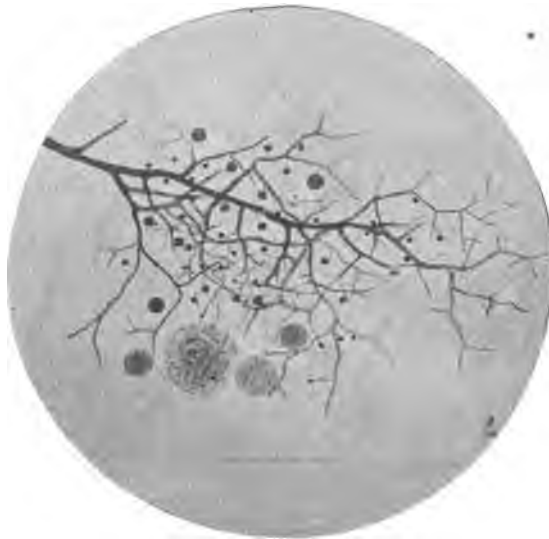
No. III.

Micro-Photographic Illustration of a Specimen of the Phthisiogeneus Microbe in Chronic Phthisis of the Lung. The Arborescence of the Microbe Illustrated by the Disintegration of the Alveola and the substituted Cell of the Microbe.



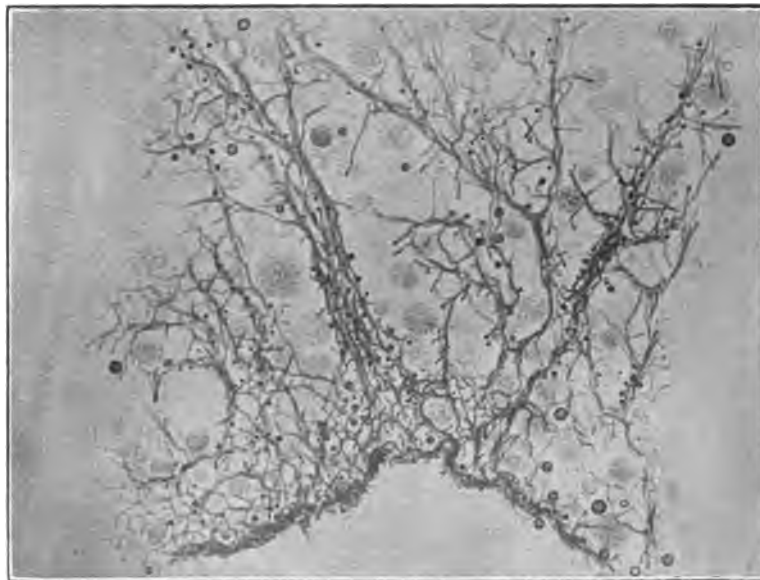
No. IV.

A similar Example of No. III.



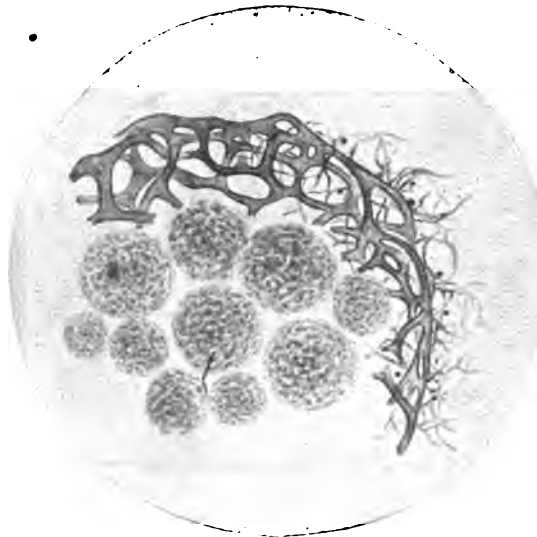
No. XVIII.

Three phases of the Arborescing fructifying Phthisiogeneous Microbe in Chronic Phthisis of the Lung.



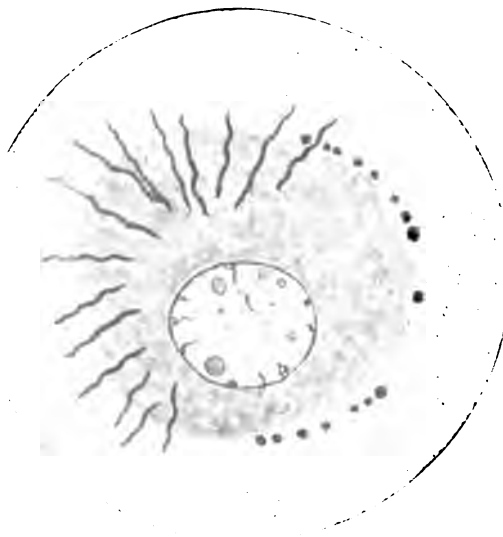
No. XIX.

Illustration of Colored Drawing made from Micro-Photograph of the Phthisiogeneous Microbe in Chronic Phthisis of the Lung. The Capsule Phases of the Arborescing, Fructifying Phthisiogeneous Microbe.



No. XX.

Three phases of the newly developed cavity in chronic Phthisis. The exterior prolific. The middle anastomatic. The inner layer of richly developed capsules of the Phthisiogeneous microbe in the cavity wall.



No. XXI.

Illustration of the delicate undulatory fibres of the Phthisiogeneous Microbe attacking the Epithelium Cell of the Lung Alveolus, with partial degeneration of the Central Chromatin.



No. XXII.

The process of formation in the Phthisiogeneous Microbe of a network in a protoplasm of the Epithelium Cell. The mass of chromatism is less than that shown in No. XXI.



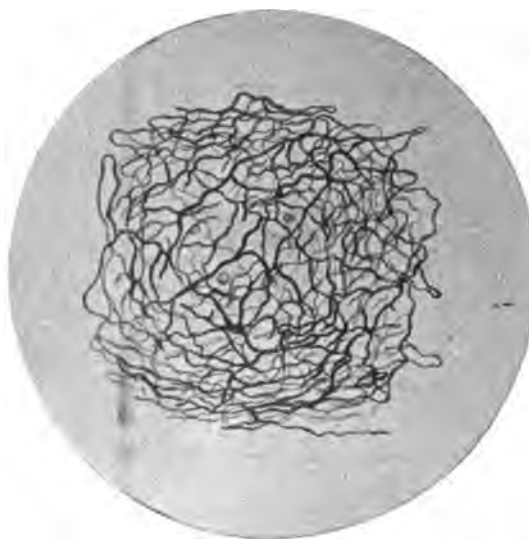
No. XXIII.

The disintegration of the Membrane, and most of the protoplasm of the Epithelium Cell. Atrophied Shriveling of the inner membrane, the chromatism having disappeared.

THE PHTHISIOGENEOUS MICROBE IN PHTHISIS OF THE LUNG.

A Collection of Illustrations of the Phthisiogeneous Microbe in Phthisis of the Lung.

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No. XXIV.

The residuary centre of the Epithelium Cell suspended in the network of the Phthisiogeneous Microbe, like a fly in the spider's web.



No. XXV.

Photographic Illustration of a Drawing from a Microscopic Specimen of the Phthisiogeneous Microbe in Chronic Phthisis of the Lung, showing Middle and Astomatic Layer in the Wall of an old Cavity.



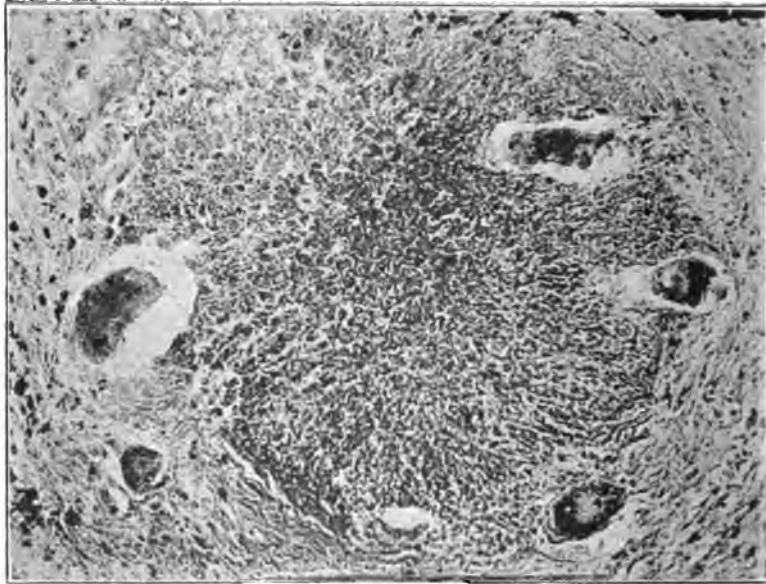
No. XXVI.

Photographic Illustration same as in No. XXV.
The characteristic Prismatic Crystals are visible in the
open spaces of the anastomatic lichenoid layer of
the Epitheligenous Microbe; also the distinct
Pipe System from the Wall of Anoid Cavity.



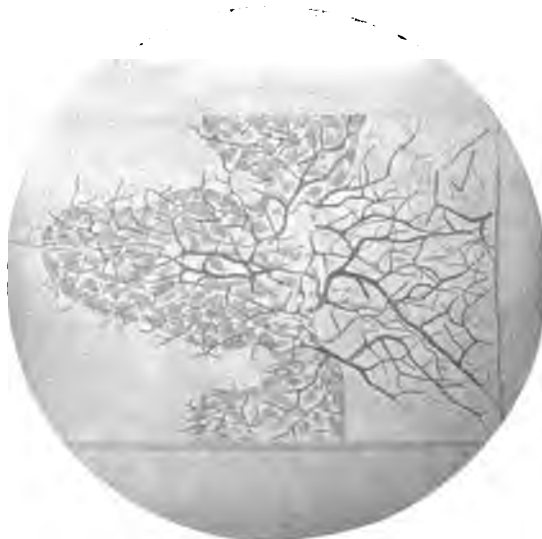
No. XXVII.

Illustration of Chronic Tuberculosis of the Lung, and Incipient Phthisis of the
Lung. Invasion of an old Tuberculous Mass by the Phthisiogeneous
Microbe. Old Giant Cells shown on the periphery.



No. XXVIII.

Illustration of the same as No. XXVII.



No. LXI.

Photographic Illustration from a drawing of a Lymph-
 iotic Culture of the Tubercle Bacillus and the
 Phthisiogeneous Microbe upon Glycerine.
 Agar in vitro. The representation is on a small scale,

THE PHTHISIOGENEOUS MICROBE
AND
THE DIFFERENCE BETWEEN TUBERCULOSIS
AND PHTHISIS OF THE LUNG.

BY PROF. DR. OTTO VON SCHROEN,

Prof. of Pathological Anatomy and Director of the Pathological
Institute at the Royal University of Naples.
Honorary President of the American International Congress
on Tuberculosis.

Translated by Hon. Moritz Ellinger, Chairman of Council and
Secretary of the American International Congress on
Tuberculosis, and Clark Bell, Esq.

With 64 illustrations.

It is not very long since the Clinic made an essential difference between Tuberculosis and Phthisis of the lung. I follow the monumental work of Dr. R. Koch on tuberculosis, and modern science has unified these two clinical essentialities, as they exclude a qualitative difference of these processes of disease and only admit a quantitative difference.

Nevertheless modern science had to admit, that aside from the difference in the manifestations of the disease, that which we recognize as tuberculosis is characterized especially by those small milliaren neoplasms, while in pronounced phthisis extensive caseous (cheese like) groups and cavities predominate. The reason for the presence of these caseous groups, from which later on are formed the cavities, is considered by our modern science in the coagulative-necrosis, and the caseous degeneration of the affected lung substances, which might be generated

Read at the American International Congress on Tuberculosis at St. Louis, Mo., on October 4th, 1904, and read before the Medico-Legal Society and Psychological Section at New York, December, 1904 in the German.

by the deleterious influence of the toxine of the infected lung-substance. In other words science of today teaches that the so-called caseous pneumonia, specially characteristic of phthisis as well as in the formation of cavities, are a product of the necrosed influence of the toxin of the tubercle bacilli. The new methods, by which I succeed intensively in showing and analyzing these hitherto barely colorable caseous groups, demonstrate that this conception rests upon a prejudice.

The caseous groups, which are the principal part of the pathological changes of the phthisical lung, do not originate as we previously believed, through necrosis of tissue, but consist in the largest part, as can now easily be seen, of a large microbe with strongly arborescing extension and rich fructification. That highly organized parasite does not produce in the first instance necrosis of the lung-parenchyma, but expels and substitutes the lung tissue, attacked by it from alveolar spaces. This phthisiogenous microbe has some similarity with hyphomycetes, but is in its structure and morphology different in many points from the latter as well as undoubtedly in its biological characteristics. In some respect it approaches the Streptococci without actually belonging to that class. It is substantially a microbe *sui generis*, which for the present cannot be systematically classified. Fortunately there is as little hurry for that, as for a hasty baptism.

The parasite spoken of, appears first as a tiny thread straight in the beginning, but in its further development slightly curved. Later on, it shows strong arborescing and fructifying branches. Finally, its branches and offshoots grow and widen, form connections so that they become an anastomotal network, which assumes a lichnoidical character. On the acme of its arborescing development also, before the anastomotal status, the microbe forms its characteristic fructification organs, which partly terminal, partly siderial rest upon fine stems and which have some similarity with spores, though not identical with them. I call these fructification—organs which have a globosine form, a fine umbrella shaped—membrane and a germinal substance, germinal capsules analogous to the bacillus capsules (*capsulae bacilli feræ* at *bacilligeras*), which I described more than eighteen years ago in the de-

velopment of the tubercule bacilli, the cholera microbes, the baccillus taeniaeformis, etc., before congresses. The main difference consists therein that the germinal capsules of the phthisisogenous microbes do not generate bacilli, but the fine threads mentioned above, which are neither baccilli nor spirelli, nor vibrionae.

The structural development of these capsules show three main phases of development. In the first stage they present small homogenous little balls hanging on fine stems, which color intensively and on which no distinct capsule-membranes can be recognized. In the second stage the membrane differentiates, whilst the homogenous substance of the enlarged capsule has become finely granulated. In the third stage the strongly enlarged capsule shows in the interior a number of fine threads which have developed from the granules of the second stage. After the capsule has reached its full ripeness, it bursts open; the threads which it contained (which in the beginning were horizontal and later on curved) leave and attack the contingent cells. In the first line they attack the epithelial cells of the lung-alveolae, then the leucocytes which especially in acute phthisis are easy to observe; finally they penetrate the interstitial tissue and even into the vessels, the lymph-tissue and the veins.

Such an affected epithelium cell of a lung alveoli looks in the beginning like a Medusa head as the threads penetrate the cells, but gradually, so that in the initiatory stage only a portion of the threads have penetrated the cell, whilst the other part still depends on the outside. It thus happens that an epithelium cell attacked in the described manner by these threads resembles the head of a Medusa. In later stage the threads, spoken of, penetrate the cell fully, in which they form a much more moderate network, which gradually grows more dense until the cell membrane and the cell-protoplasm are entirely consumed so that the one remaining kernel so suspended in the described network looks like a fly in a cobweb. Thus the epithelium cell attacked by this microbe becomes a parasiterous centre of culture, the confluence of which with the tissue next to it, presents a dense net, which not only fills up completely the respective alveoli, in combination with the im-

migrated leucocytes and red blood corpuscles, but destroys in a short time their walls, a process distinctly visible in quick consumption.

That this contributes essentially to the origin of the cavities can be easily understood by anybody who has once seen a preparation of this class.

In the epithelium cell the kernel suspended in the microbe-tissue resists the attack of the parasite a comparatively long time, until it finally succumbs. In the beginning the microbe draws away from it its chromatin, then it becomes atrophied, through which the venal substance disappears in a way that the kernel-membrane looks wrinkled. Kernels thus changed are also found in considerable mass in the cavity-tetritus, especially in the beginning of the formation of the cavity.

The evolution of the phthisiogenous microbe, as I have sketched it in brief, presents in itself a complete morphological-genetical cycle, which begins with the penetration of the tiny threads in the epithelium cells of the lungs and runs through the described phases finds its conclusion with the existence of the threads out of the capsules. This entire cycle belongs to the evolutionary status of the capsules, the acme of which lies in the fructifying arborescence. This plain evolutionary status is followed by a second which might be designated by involution if there would appear in it two essential processes of growth. In reality in this second status the trunks and branches of the microbe distend into distinct pipes, which connecting with each other form a wide anastomotic network, in which the phthisiogenous microbe approaches the lichenoid forms and assumes in it a great extension, especially in the chronic form of lung phthisis. On this account I would not designate as unexceptional this second status as an involution status. The phthisiogenous microbe degenerates into fragmentation and fatty and mucous softening. The mucous caseine detritus arising therefrom and which forms the contents of the cavities and which is mixed with a number of other form-elements is expectorated as sputum. No one had a conception until now, which is the true origin and the true composition of the greater part of this sputum. Thus we have, i. e., hitherto assumed that the

mucous part of the sputum was of bronchial origin and the caseinous portion was emulsionous necrotical lung-tissue. Both is a prejudice. The largest part of the sputum is the phthisiogenous microbe itself in a condition of fragmentation, as well as of the fatty and mucous degeneration. That many other elements contribute to the constitution of the so-called cavernous sputum has been mentioned already. I mention only a few of these ingredients, as for instance, different kinds of leucocytes; red blood corpuscles; atrophic kernels of old lung-epithelium cells and mononuclear leucocytes; tubercle bacilli in the three characteristic phases of their structural evolution; tubercle-bacilli capsules; phthisiogenous capsules; free threads of phthisiogenous microbes, different facultative symbiotic microbes, especially cocci; tubercle-bacilli Rhombs; prisms of the phthisiogenous microbes, etc. In the cavity wall three stages can be easily discerned; an inner degeneration which frequently contains masses of tubercle bacilli, which, however, is sometimes absent; a middle one of which the largest part is formed by an anastomotal tube system of the phthisiogenous microbe; and an exterior one which contains the growing centrifugal, arborescent, fructifying threads of the parasite and which winding constantly through progressive fructification of the cavities obtains greater extension in the neighboring tissue.

Thus is explained the general structure as well as the rapid centrifugal growth of the cavities.

From the brief indications just made it is seen that there are cavities in which the phthisiogenous microbes appear symbiotic with the tubercle bacilli and cavities in which only the parasite of the phthisis is found. This condition responds to the constitution of the cavita-sputa as we observe those which contain tubercle bacilli and phthisiogenous microbes, and others which show only the microorganisms of the phthisis; the latter are rare.

Whether there are small initial cavities, in which only the tubercle bacillus, without the phthisiogeneous microbe, is colonized, the future must decide. For the present I state in regard to this important question that I have not found up to the present time any cavities of the lung, in the wall of which the tubercle bacillus was isolated, but

only such in which both are combined, or only the phthisiogenic microbe. But it has not been proved, so far, that the tubercle bacillus in itself alone is able to produce cavities of the lung, although, I think it probable that the initial phases of the cavities may be produced by the tubercle bacillus alone.

Such a question may, perhaps, seem strange to some, after it is known that during the course of tuberculosis there appear in many places of our body, tumors and cavity like connections and separations, as for example, upon the skin, in the mucous membrane, in the kidneys, in the bones, in the brain, which we have ascribed to the action of the tubercle bacillus. To identify or regard these necroses and processes of suppuration, with the cavities of the lung without further ceremony as unquestionably analogous is today no longer admissible after the discovery of the phthisiogenic microbe. All these pathological processes must be revised anew to their genesis and morphological importance upon the basis of our knowledge of today, before we can form a final opinion concerning the same.

Of especial importance to pathology is the appearance of the phthisiogenic microbe in the lymph-ducts and especially in the blood vessels, where it first appears, particularly in the small veins, as a fine threadlet, then as a thread net-work, then as a parietal Thrombus, then as a canalized Thrombus and finally as a complete obturative Thrombus. The more the network of the parasite spreads itself out in the vessels, the less will be the number of the blood corpuscles, until they completely disappear. The same fate awaits the vessel-Endothel. The possibility of deliquia appearing in the last stages of phthisis of the lung, may be considered as having their origin in embolia of the brain vessels in parasites of this kind, and not in simple anaemia and nervous exhaustion, as we have heretofore assumed. Perhaps, too, the psychical disturbances observed in phthisicists, may be connected with such embolia of the vessels.

From the facts heretofore stated it appears, therefore:

1. That Tuberculosis and Phthisis are two distinctly different forms of disease, the cause of which is to be found in two different microbes.

2. That Tuberculosis and Phthisis are frequently united in the diseased lung, but that Tuberculosis precedes and Phthisis follows.

3. That the formation of cavities, is due principally to the action of the phthisiogeneous microbe, and that the wall of the large cavities is formed by three strata, which are the result of different phases of evolution, involution and degeneration of the parasite.

4. That the extended caseous mass in the lung of Phthisicists are not necrotic lung tissues, but are phases of the phthisiogeneous parasite.

5. That the microbe of Phthisis penetrates likewise.

A series of questions suggest themselves; a few of which I mention.

1. Does there exist a primitive Phthisis, or does the same only appear in the lung after a preceding Tuberculosis, to wit, as Metabiosis?

As I have already stated above, there are lung cavities which are formed only by phthisiogeneous microbes, and in which the tubercule bacillus as a fixed or stationary layer is not present; just the same as there are sputa of pronounced Phthisicists, in which the tubercule baccillus cannot be found, but only the parasite of the Phthisis with its degenerative residuea. This might lead to the premature conclusion that there exists a primitive or genuine Phthisis of the lung. Contrary to this view I have to state that up to the present I have not found one among the many lung phthisicists in which Tuberculosis was not to be diagnosed, as an active symbiotic, or as an obsolete, probiotic process. However, it should not be meant by this, that the possibility of a primitive Phthisis was excluded a priori. But it has not been proven up to the present time.

2. Which of the two microbes is the more dangerous one, and how is it with the cure of Tuberculosis and Phthisis?

Experience of many years, especially after the discovery of the Tuberculosis bacillus Rhombus, so important in the diagnosis and prognosis of the same, has shown me that the transit of Tubercule baccilli through the human

lung without subsequent tuberculosis, is much more frequent or abundant than it was heretofore supposed to be. A clear insight to this important question would, of course, have been impossible, even before the knowledge or cognizance of the tubercle bacillus Rhombus, which we find as caput mortuum where the said bacilli have lodged. But as to the complete cure of Tuberculosis already located in the point of lung, I preclude the possibility of it for the present.

More frequently, however, it is the momentary or definite cessation of Tuberculosis, at the point of the lungs; the so-called Obsolescence of the same, as I have shown to my auditorium for more than 35 years, illustrated by a rich selection of section material and microscopic preparations. Only one should not assume that the germs of the tubercle bacilli have died out in the obsolete Tuberculosis, even if the same be surrounded by an ever so strong cellular tissue. They are only in a latent condition. And just here is the danger to the individual himself, as well as to his descendants. (That Tuberculosis of the points of the lungs should come to a standstill, or perhaps even to a definite extinguishment by means of calcination, is a prejudice). First there appears obsolescence and then partly calcination of the surrounding fibrous cellular tissues. Germs which are still living do not calcinate, only such as have died out. My monograph on Tuberculosis and Phthisis will show more particularly the various dangers which the latent germs of an absolute Tuberculosis at the points of the lungs have in their train, as also the probable near, distant and hereditary mechanism of infection of the same, especially on the importance of the plasmodic capsules which belong to the first cycles of the structural evolution of the tubercle bacillus.

It is, therefore, without doubt that the tubercle bacillus colonized in the point of the lung subjects the infected one to dangers of various kinds. They are, however, but small, considering those to which the infected one is subject by the invasion and rapid diffusion of the phthisiogeneous microbe in the lung. While the tubercle bacillus in the point of the lung has more a consolidating than a partially destructive effect, particularly by reason of the chronic pneumonia and pleuritis accompanying it, adhaesiva fib-

rosa, the phthisiogeneus microbe destroys the tissues of the lung in a rapid manner and causes simultaneously a series of the severest appearances of poisoning by the absorption of its deleterious toxins, which characterizes this phase of the Phthisis as being one of the worst by reason of the disturbance of the general good health. Upon the basis of these newly discovered observations the whole stage of the disease of Phthisis is cleared essentially, both in its aspects as also in its general symptoms. In this manner not only the copious expectoration (sputum) is explicable or plausible, which is the index of the degenerated and partly emulsionized mass of parasites; but also the high fever, the weakening perspirations of the night, the rapid, extreme falling away, the profound anaemia, the dyspepsia, the nervous appearances, etc. The point in question in Phthisis is in contrast with Tuberculosis, an intensive local process of destruction, and a general severe and always renewed poisoning of the organism. Still more grave are the appearances through active symbiosis of the work of the tubercle-bacillus, combined with that of the phthisiogeneus microbe in the lung.

The gravest appearances are those where more facultative lung parasites, make their appearance, together with the said microbes, especially streptococci or coccidioides, to which latter I have already called attention at the Congress in Rome, in 1894.

Briefly summarized, the danger of Tuberculosis is less, in the local destructive tendency of this process, than in the great tenacity of its germs, even if they have lodged for a long time in a latent condition. The danger lays in the tenacity of these germs which may result in a near dissemination, in the lung itself; or in a more distant embolic or simple infection of other organs of the infected person; or in the hereditary transfer upon the progeny.

Tuberculosis which inclines towards a local cure has in its germs, however, an almost inextinguishable tenacity, as to the morphogenesis of which my monograph will be more explicit. Phthisis, however, on the contrary, has a violent local destructive force, produces an intensive toxin which acts deleteriously on the whole organism, which is, however, not hereditary. The phthisicist transfers only the

cachectic habitus, but not the germs of its deadly parasite. That which is transferrable parasitically, are the germs of Tuberculosis.

From the statements heretofore made and especially by the new fact that Tuberculosis and Phthisis are generated by two essentially different living agencies, the fact is likewise made clear that Phthisis of the lung has not only defied every favorable influence through Tuberculosis, but on the contrary has been increased by this doubtful remedy. Occasionally I shall communicate some microscopic and microscopic Section-Reports of Phthisicists, which were treated with tuberculin. Should, however, in the future, a Serum-Therapy for phthisicists exist, a theory which I do not dare to assert a priori, it is to be expected, at any rate, only through the toxins of the phthisiogeneous microbe, but not through those of the tubercle bacillus, no matter under which form of tuberculin they may be explained.

Serum-Therapy for Phthisicists is presumed in the first place to contain pale, pure culture of the phthisiogeneous microbe. I possess, so far, only the symbiotic culture of the tubercle bacillus with the phthisiogeneous microbe in vitro, as also the pure culture of the latter in culture-drops according to my method. These two kinds of culture give for the present, important proof that the phthisiogeneous microbe can at any rate be cultivated upon an artificial fertile soil. The future will demonstrate it further. The symbiotic culture of the phthisiogeneous microbe with the tubercle-bacillus upon an artificial fertile soil in vitro, was for me of special interest, on account of the comparison of the forms of growth of the two parasites under identical conditions of life. Especially interesting was it to me to state (demonstrate) whether or not symbiosis in vitro produces different forms from the symbiosis of the two parasites which appear so frequently in the living human organism and especially in the lungs, in the lymph-glands, in the spleen, etc. On this point the sectional cuts of the so-called culture in vitro give explanation. Especially distinct appears the pipe system of the so-called microbe on its anastomatic stage (stadium).

The drop pure-cultures which were cultivated under my culture globe, gave especially important explanations as

to the morphogenesis of this enigmatical (mysterious) parasite which, doubtless, belongs to the category of the thread-fungi. All these culture drops will be hardened and colored, partly entire, partly in sectional cuts and are enclosed in Canada Balsam. The interesting details, the publication of which requires space and time, which I shall later on bring to universal knowledge. Today, I only lay stress upon the fact that the phthisiogeneous microbe can be cultivated, not only in symbiosis in connection with the tubercle-bacillus upon an artificial fertile soil, but also isolated.

Let us summarize now in a few words the principal points of the new doctrine of Phthisis with a retrospect on Tuberculosis as far as the same is today recognized and we shall arrive at the following principal conclusions:

I. The caseous mass in the lung of Phthisicists consists by far the greater part of a highly organized vegetabilic parasite, to wit, of a thread-like fungus, which is essentially different from the tubercle bacillus. But the so-called caseous mass does not exist, as it is assumed up to this date to be, of necrotic tissue of the lung which is thoroughly caseous.

II. The wall of the large cavities is clothed with three distinct layers of the phthisiogeneous microbe, while small cavities, for instance, of the size of a hazel nut, show quite distinctly the so-called parasite, but not so distinctly the three layers of the same.

III. The sputum of phthisicists consists for the greater part of the fragmentary phthisiogeneous microbe, which has been softened and emulsionized by reason of fatty and mucous degeneration.

IV. There are cavities which show the phthisiogeneous microbe and the tubercle bacillus symbiotically.

V. There are cavities which show the microbe of phthisis and not the tubercle bacillus with its morphological derivations.

VI. The phthisiogeneous microbe appears besides in the human lung, also in other inner organs and is as such not a prerogative of the human race, but it likewise appears among animals (especially among monkeys) in the organs of which latter it produces similar variations as it does among men.

VII. The specific crystals of the phthisiogeneus microbe are prisms, while those of the tubercle bacillus are rhombs, as I have already demonstrated at the Congress in Rome, in 1892.

VIII. The phthisiogeneus microbe can be cultivated on artificial soil in symbiosis with the tubercle bacillus and also alone as is indicated by my culture drops.

IX. Whether an anti-phthisical Serum Therapy is possible, further experiments must demonstrate.

X. The discovery of the phthisiogeneus microbe requires a minute and thorough revision of the entire chapter on Tuberculosis and Phthisis.

If we ask in conclusion what remains after the discovery of the phthisiogeneus microbe, and after the substantiation of the dualism, of the present doctrine of Tuberculosis and Phthisis in favor of the tubercle bacillus, this can be summarized in the following principal paragraphs:

1. The tubercle bacillus produces the miliary tubercle, a peculiarity which, however, does not belong to it alone, as my experiments, published 38 years ago, with a fine embolic cork file have demonstrated.

2. The specific tubercle can erode veins and cause thereby blood hemorrhages, especially in the perivascular form of tuberculosis.

3. The tubercle bacillus, with its poisonous productions of secretion which further the protoplasm, can produce coagulative necrosis. (Caseous pneumonia.)

4. The tubercle bacillus can cause tumors, especially in the mucous membranes, whether alone or in conjunction with other microbes, further experiments must demonstrate.

5. It can produce embolic miliary tuberculosis.

6. It produces parenchymatous inflammation, which are predisposed to take a chronic course, and in which coagulative necrosis plays an important part. Very frequently such parenchymatous inflammations take on an acute character and lead to abscess.

7. It produces upon the skin a process of acute and chronic suppuration and exudation of a fibrous character. Frequently they are simply sero purulent.

8. It probably produces from the finest bronchi the smallest initial cavities. The large lung cavities are of a parenchymatous origin and are produced by the phthisiogeneous microbe.

9. It is the pioneer of the phthisiogeneous microbe in the lung, with which it frequently lives together in symbiosis.

The proportionate communication of the tubercle bacillus and of the phthisiogeneous microbe can be probiotic, symbiotic and metabiotic.

10. It produces chronic interstitial inflammations, which sometimes leave considerable masses of fibrous ligaments behind, (i. e. its irritating products of secretion) which under circumstances may be of great benefit to the patient, as for instance, the interstitial pneumonia for the successful obsolescence, and the pleuritis adhesiva fibrosa in the neighborhood of large cavities as a protection against Pyo-Pneumo-Thorax.

11. The tubercle bacillus has a rhomb as its specific crystal which I formerly called phthisin-rhomb at the time I occupied the monistic standpoint on the question of tuberculosis and phthisis. Today I simply call it tubercle bacillus rhomb. This crystal which at its beginning looks as clear as glass, then opaque like milk-glass, and which later on runs through a course of autochtonic chromatic metamorphosis, in the culture as well as in the tissue, during which it shows all kaleidoscopic colors from yellow and brown down to the deepest black,—is of great diagnostic and prognostic importance, especially in the beginning of tuberculosis of the lung, in which it already appears in the sputum before the tubercle bacilli.

12. The tubercle bacillus, the local destructive force of which has been heretofore overestimated and the hereditary importance of which is today by many underestimated, is for the human race of the greatest pathological importance, especially by reason of the enormous resistance of its germs. As to the duration capsules found by me which belong to the evolution of the tubercle bacillus, I shall dwell upon this on another occasion.

I have attached to this communication a small selection of 64 photograms, which give an appropriate idea of the genesis and structure of the phthisiogeneous microbe.

PROF. DR. OTTO VON SCHROEN,
Of the Royal University of Naples, Honorary President of the
American International Congress on Tuberculosis of
October, 1904, Honorary Member of the Medico-
Legal Society of New York.

BY CLARK BELL, ESQ., LL. D.

This eminent man and scientist was honored at the recent session of the American International Congress on Tuberculosis, held at the St. Louis Exposition, October 3, 4 and 5, 1904, by an election as one of the Honorary Presidents of that body for his contribution to that Congress of his paper, entitled "The Patheogeneus Microbe of Phthisis of the Lung."

It was his contribution to the Pathology and Bacteriology of Tuberculosis.

The paper was written in the German language and he sent also an analysis and resume of it in the Italian language. He sent with it to the chairman of the Committee on Organization of the Congress most beautiful illustrations of his research and discoveries for reproduction in this country 64 plates splendidly executed.

The paper was read also before the Medico-Legal Society of New York by the Corresponding Secretary, Moritz Ellinger, Esq., and that body directed that it be translated and published in the Medico-Legal Journal. Hon. Moritz Ellinger has the translation of the paper well nigh completed, and the first part of this translation will appear in this number of the Journal and the whole brought out shortly to go into the Bulletin of that Congress.

Prof. Von Schroen claims to be the discoverer of a new parasite essentially different from the microbe bacillus of Koch and which he here describes.

His paper treats of the pathological difference between simple Tuberculosis and Phthisis of the lung.

Read before the Medico-Legal Society and Psychological Section,
February 15, 1905.



Hollinger

Faithfully Yours
Charles Budie Patton



He supplements the splendid discoveries advanced by Koch at Margeburg in 1884 and Berlin in 1886, by his announcement of the Phthisigenous Microbe of Phthisis of the lung.

He presents with this announcement the carefully detailed illustrations of his researches the existence of a new form of parasite entirely distinct from the microbe discovered by Koch, which is produced in what is called the last stages of the disease when the fatal symptoms develop suddenly or what has been called "quick consumption" or galloping consumption."

Prof. Von Schroen claims that the Phthisiogeneous Microbe of Phthisis of the Lung is fatal in its work and is not controlled by or amenable to the remedies which arrest the ravages of the tubercle bacillus.

That consumption is curable; phthisis never.

That no case of real phthisis has ever been cured.

He describes in most graphic language how this new parasite works, beginning as a tiny thread, at first straight then slightly curved, then extending and forming a closely wound ball around the nucleus of the cellular protoplasm. That these develop, increase and divide themselves into arborescent fructifying branches and assume pipe like form which englobe and destroy the cellular protoplasm. That capules then appear that resemble spores, that increase in volume, granulate, dissolve their own substance, again assume the thread like appearance and renew the same processes and thus form the cavities where is the home and seat of the work of this microbe, but not necessarily always of the tubercle bacillus of Koch.

Prof. Von Schroen claims to have discovered a process of vividly coloring this new parasite, and that by this means only was he able to identify it and distinguish it from lung tissue.

He has also traced and is able to distinguish and discriminate between the specific crystals searched by this parasite and those of the tubercle bacillus of Koch.

He defines now a new triangular prism from this parasite which he calls "the true Phthism crystal," this he had before his later discoveries called the rhomboid of tuberculosis, which error he now corrects.

He now detects the presence of the microbe by its specific crystal in the sputum long before the microbe itself can be found after the most careful search in the tissues.

He asserts that the microbe actually at work in the apex of the lungs does not emerge until the bronchial tubes are eroded, but that these tiny crystals, white as mother of pearl and sharp as needles, emerge through the tissues and are expectorated and form reliable sources of accurate diagnosis where no microbe has yet appeared.

Prof. Von Schroen does not announce that he has yet discovered the toxin of phthisis as distinguished from tuberculosis.

He believes that it must be looked for only in the phthiogenic microbe itself.

He does not claim to have the serum yet, but claims to have the pure culture of the microbe only in pendent drop under the Schroen globe.

He believes that he will soon have the serum and to rear it in vitro and to produce the toxine which he hopes may secure immunity.

He asserts that he has found the phthiogenic microbe, commencing its ravages in case of ordinary tuberculosis, both existing and where a cure has been effected, and he also asserts that he has found the microbe of phthisis in genuine cases where he has not yet been able to demonstrate the previous existence of tuberculosis.

The public press in Italy and elsewhere has published accounts of his discovery, which he has furnished to the writer.

Dr. Kolbenheyer, of St. Louis, a member of the local committee on organization of the American Congress on Tuberculosis, explained in our language to the Congress, at St. Louis, the principal points of Prof. Von Schroen's paper, to which reference has been made and Hon. Moritz Ellinger did the same before the Medico-Legal Society, where the paper was presented in the German language.

The American translation now appears for the first time.

The New York Herald, of Jan. 15, 1905, published a most interesting article announcing Dr. Von Schroen as the discoverer of "The True Microbe of Phthisis."

The Phthiogenic Microbe which differentiates "galloping consumption or phthisis from ordinary tuberculosis,

from which extracts are made from the pen of Mary Scott-Uda, who gives the language of the learned professor, in many instances with cuts, as they appear in that great Journal. Mary Scott-Uda says:

From the earliest times there have been eminent doctors who perceived and asserted a pathological difference between simple tuberculosis and phthisis, notwithstanding the fact that the medical science of the day did not, as yet, suspect the existence of active organic life in either disease. The startling discovery of Koch in 1882 of the microbe of tuberculosis seemed destined to put an end to scientific wrangling over the various forms of the disease and to conclude for the oneness of the process. The great clinic schools, dazzled by the glory of the new gospel, thenceforth admitted a difference only of quantity, not quality, between tuberculosis and phthisis and referred to it all the changed and conflicting symptoms observed.

* * * * *

Science, however, has her reserves. Amid the plaudits of the great congress of Madgeburg in 1884 and that of Berlin in 1886, which hailed the discovery and methods of Koch as the Ultima Thula of microscopic research one voice, that of Otto Von Schroen, was heard declaring them to be not the last, but the first step in an interminable series.

The microscopic study which followed this bold declaration has astonished the world with revelation of the organic life of crystals and of the petrocellules of igneous rocks, demonstrating beyond question the biological unity of the three kingdoms of nature, animal, vegetable and mineral.

NEW THEORY ADVANCED.

Of these subtle and brilliant discoveries the Herald has already published a detailed account; but these were bypaths in which the genius of the man who is today considered the most careful microscopist of Europe paused in the arduous climb to a living truth. He gathered therein proofs of life where death seemed master; of force where inertia seemed to prevail; of beauty where seemed only decay; but the fine end and aim of Otto Von Schroen's life for the last twenty years has been to substantiate the bold assertion of Madgeburg.

He has at last done so, and now announces to the world the second great discovery in phthisis, the existence of a form of infinitesimal life new and entirely distinct from the bacillus tuberculosis discovered by Koch, to which he gives the name of the phthisiogenic microbe.

It was a lovely afternoon in last June that I climbed the four stories of the house in Naples, overlooking the bay, where Schroen has his laboratory. The kind Professor, whom I have known for many years, himself had called me:—

"Come and tell your people across the seas the great news.

"The cause of consumption is defined. We know at last what we have to fight—a new parasite, essentially different from the tubercular microbe of Koch, naturally refractory to the remedies applied, sometimes successfully, in tuberculosis, a parasite which produces what is called the last stage of consumption, developing the sudden fatal symptoms, so dreaded by doctor and patient, or hectic fever, night sweats, rapid decay—in short, florid phthisis, or galloping consumption. Come and see!" So saying, the master, his discoveries had been made.

"Look," he said eagerly, "this is a bit of pulmonary tissue. Do you see the innumerable violet ramifications spreading over and through the cellule? See how they lengthen and twist until they form a closely wound ball around the nuclues. It is the cobweb of death, the grim spider. Thus far he has had it all his own way. No case of real phthisis has ever been cured. Mark, as they develop, how these threads increase, divide in arborescent branches. Here again they look like tubes which englobe and destroy the cellular protoplasm. Now capsular excrescences appear which have the form of spores that grow in volume, become granules, dissolve their own substance, again become threads, new cobwebs around new cells, completing the cycle, renewing the process, consuming the pulmonary tissue and eventually forming the so-called lung caverns in whose product the microbe of Koch is often found wanting, the phthisiogeneous microbe never.

"This micro-organism, which in comparison with the bacillus of Koch might be almost called a microbe, appears in the beginning as a tiny thread, first straight, then slightly curved, a kind of cross between the streptotrichee and the iphimeceli, though differing from both in structural peculiarities and in its absolutely vast proliferation.

"I will say here that an essential part, perhaps the *raison d'être*, of the discovery of Schroen, lies in having found the means of coloring vividly this new parasite formerly indistinguishable from the lung tissue."

* * * * *

"What do you consider the practical value of your discovery?" said I, anxious, like most laymen, more to learn the cure than the cause.

"First of all," said the Professor. "accuracy of diagnosis. For the last ten years the remarkable success I have had in treating consumption has been due to having detected the presence of the microbe by its specific crystal, which appears in the scarce sputum of the patient long before the closest scrutiny can discover the bacillus itself.

PRESENT CONDITION OF THE WORK.

"What I now declare and demonstrate in a series of irrefragable scientific preparations means the crumbling of all our fundamental ideas on tuberculosis and phthisis. It is evident that the bacillus of Koch can no longer carry the weight of an undue responsibility. Its local destructive powers, which lie mainly in the great resistance of the germs, are reduced to a minimum in comparison with the rapid devastation of the phthisiogeneous microbe. That the tubercules of Koch may and do exist in large colonies without creating profound general changes, fever, cassification and the like is known to all. In short, tuberculosis need not and does not, except through other complications, necessarily destroy life. It can be cured.

"On the other hand, I declare and demonstrate that the gaseous matter thrown off from the lungs of consumptives, hitherto considered by us all as a mortified substance, incolorable, decomposed, a species of lung detritus, is, instead, a new micro-organism in the form of a large microbe highly organized, which I have succeeded in coloring strongly and which attacks and absorbs the lung tissue and in turn degenerates. At present phthisis is absolutely fatal, but on the basis of the important experimental difference I have shown a new pathology may arise, sweeping away present systems and bringing relief and hope to suffering humanity."

He longs to meet the tremendous issue—so largely involving the fate of humanity, at every point; to institute popular classes on

tuberculosis and phthisis, where every prophylactic and rational cure would be taught, where the consumptive would become his own most capable physician.—From the N. Y. Herald of Jan. 15. 1905.

This article, of which we regret not to have space for it all, and the first part of the translation of the paper of Prof. Von Schroen will be sent to the members of the American Congress on Tuberculosis and to the students of the pathology and bacteriology of tuberculosis in those countries whose Governments were invited by the United States Government to take part in the work of the St. Louis Congress, with the announcement that the contributions to the Pathology and Bacteriology of Tuberculosis had been ordered held open by the Executive Board of that Congress until July 1, 1905, so that contributions could go into the Bulletin of the Congress.

Any student desiring to contribute will receive a copy of the same by addressing the writer.

TUBERCULOSIS AND PREVENTIVE LEGISLATION.

The work of the American International Congress on Tuberculosis passes into history as a great forward and upward step in a world movement. Whatever may be the future of the successful introduction of legislation preventive in its action, the principles for which the founders of this international movement contended, so splendidly sustained by the Government and the St. Louis Exposition, will be the corner stone of solid, substantial progress in the coming days.

It is now more than ever apparent, that it is not a work that can be consummated by medical men alone.

It remains now more plain than before, that it will engage the best talent of all the professions, and the intelligent laity to win out in this struggle.

It is quite impossible to entrust questions of such momentous interest to the general welfare of mankind, to a few medical men self-constituted and self-appointed. Legislative action of the most careful, prudent and technical kind must be formulated, prepared and adopted.

A general public opinion of the whole people, must be created, encouraged and maintained to accomplish desired results.

The medical profession as such has a great duty in the line of the progress of this work.

If it, as a profession, organizes a movement, general and representative in character, and enlists the ablest men of its whole force in every State, its efforts will be productive of good, but it should not antagonize the work of men of all



**HONORARY VICE PRESIDENTS AMERICAN
INTERNATIONAL CONGRESS ON TUBERCULOSIS,
ST. LOUIS, 1904.**

HENRY A. HAIGH, ESQ.,
Detroit, Michigan.

DR. HENRY O. MARCEY,
Boston, Mass.

DR. W. FAWCETT SMITH,
Puerto Rico.

DR. ALFRED E. REGENSBURGER,
San Francisco, Cal.

DR. SAMUEL GACHE,
Buenos Ayres, South America.



the professions or of citizens of every class who seek to bear arms in the service of that great army which must needs be organized on broad and liberal lines in the conflict with the great scourge of the race. It is the grand question in Forensic Medicine of the era in which the forces of law, medicine and philanthropy should join hands as against a common enemy.

LAYMEN IN CONFLICT WITH TUBERCULOSIS.

The New York Sun, in a special dispatch, published a statement from the headquarters of the National Association for the Study and Prevention of Tuberculosis, announcing a meeting of that Association at Washington, on the 18th and 19th of May then ensuing, from which we make the following extracts:

The world's awakening to the seriousness and also the hopefulness of the tuberculosis situation is encouraging. Koch's discovery of tuberculosis bacillus in 1882, and the researches which followed have established beyond dispute that the disease is infectious and perfectly preventable. Clinical experience has shown that in most of the early cases the disease is curable. In other words, hundreds of thousands of lives sacrificed annually to the scourge are needlessly lost.

It is recognized that the problem is even more social than medical, and while the association was started by physicians, it is emphasizing more and more the necessity for lay co-operation.

One of the Vice-Presidents of this organization, who distinguished himself by opposing with great energy the labors of the American International Congress on Tuberculosis, held at St. Louis, at the World's Fair, in the Fall of 1904, because its officers, honorary presidents and honorary vice-presidents were selected from Governors of States, lawyers, clergymen, statesmen and the intelligent and philanthropic laity, and its active management as well, seems to have changed his views, and it is now dawning on his mind that lay co-operation is important and necessary.

Dr. Osler, who was the leading factor in the organization of this body, believed that the officers should be confined to medical men, and that the statesmen, jurists and philanthropists should not be entrusted with any voice in the management, or in the distribution of the offices, and be permitted only to help furnish the money to carry on the work.

In the initiatory steps of the formation of the Canadian Association, the Lieut. Governors of the Canadian Provinces were, in many cases, selected as vice-presidents of the Dominion body, and were actively identified with its organization and management.

It is of doubtful propriety or wisdom to thus exclude men of all the professions from the management and official control of such a body as is necessary to combat such a foe as tuberculosis.

Medical men per se are not from their education and training superior to men of business, or of the other professions, and it would not be an element of strength in a National Association to exclude from active participation those men of means and philanthropic hearts, who felt a personal and profound interest in the struggle against tuberculosis.

The general public, needs to be aroused, assisted, educated and convinced of the propriety and wisdom of preventive measures.

Laws of this character can only be passed or enforced when passed, where there is a strong public sentiment behind them.

A law, no matter how good and wise and beneficent, can ever be enforced if popular opinion is against its spirit.

Physicians do not influence public sentiment, as much as they should. The popular prejudice against them is well known, and any carefully planned system of exclusion of popular or representative men, outside the medical profession, would seriously cripple if not defeat the very objects sought to be accomplished and might defeat the highest and noblest aims.

The American public is a very intelligent and thoughtful public. In influencing legislation especially, no careful student of sociological influences upon public measures, of

common interest, would consider the views of medical men or their influence in securing legislation especially, of half the weight it ought to command.

The prejudice against measures initiated by medical men is very strong among legislators.

This should not be concealed nor under estimated.

If the National Medical Association against Tuberculosis is formed to study medical questions only, and confine its work to treatment alone, and the medical questions involved; then it would not be necessary to call on the general public for financial aid.

Medical questions only, do not interest the public per se.

The American International Congress on Tuberculosis, made a strong effort to eliminate and exclude all merely medical questions from its studies. All papers and action on treatment were excluded, except so far as they related to State Sanitariums. What can be done by preventive legislation, to arrest the disease, is the corner stone of that body.

Its work is limited to that line of inquiry.

For men of narrow minds who consider that it is the duty of medical men, or of the medical profession to usurp the solution of the problems of a forensic character which lie outside of medical treatment, and which are Medico-Legal in all their aspect and bearings, it is more unwise to oppose those of the non-medical professions, who are at work on higher issues and nobler ideals, than to discuss how to treat consumption, or to dispute and censure bad medical practice. The American International Congress on Tuberculosis was organized on the broadest lines to study the grandest Medico-Legal questions ever before presented to mankind. How far can legislation avert or arrest the ravages of consumption.

There is no reason for any contest in such a struggle between that body, and a strictly medical organization which seeks to study Tuberculosis only, along its medical aspects. The medical side of such a controversy alone has no great interest for the American public or people.

THE RELATION OF INSANITY TO TUBERCULOSIS.

BY P. M. WISE, M. D., NEW YORK,

Ex-President American Psychological Association, State Committee
In Lunacy, etc.

Dr. P. M. Wise, late President of the Lunacy Commission of New York, of the American Psychological Association, with a long and splendid experience in the care of the insane, and whom I regarded as in the front rank of American alienists and especially competent to speak of the insane in care, treatment and in all respects, was invited by me to contribute a paper on this subject. He sent the following brief communication and later sent a second and longer one. I give both. The first was:

Hon. Clark Bell, New York, 39 Broadway:

My Dear Mr. Bell:

In regard to the especial relation of tuberculosis and mental diseases, as differentiated from the relations of other bodily diseases of a chronic nature and insanity, it must be said by all having experience that it is much closer. In fact, I have known of families having a progressively degenerating history through three generations to extinction, in which tuberculosis and insanity intermingled, and as to taint of progeny there seemed to be no choice.

Why should tuberculosis have this predilection for brain weakness? There are several scientific reasons, but alas, not capable of proof, as so many dogmas of science are not. Tuberculosis, more than other constitutional diseases marked by general progressive degeneration, seems to ex-

The second was contributed to and read at the April Meeting of the Medico-Legal Society, and was intended as a contribution to the Symposium of the American Congress on Tuberculosis, April 19, 1905.

pend the lecithin and phosphorus containing tissues, in preference to others. Fat, it is noticed by the least observing, is the first part of the body the consumptive is short in, and brain matter or nerve tissue is a half-sister to fat. Consumptives spend their fat, whether underneath the skin or skull with equal prodigality. Beyond a certain point this is manifested by forms of mental weakness characteristic of exhaustion, lack of vitality, lack of matter. It is seldom that families predisposed by inheritance to consumption and insanity (frequently one or both—and both) suffer from forms of insanity of a violent, active nature. It is depressive, or if of an exalted character, of the mild “foolish” (weak) kind.

But frequently consumptives are met with who show an unwonted brilliance of intellect, in fact so-called “geniuses” sometimes spring out of this very class, shed a refulgence of great mental power,—oftener in emotional letters,—for a few short years, and then fade as the lily; to be regretted and bewailed as a victim of the great scourge; not realizing that the same scourge created the sparkling radiance which was the primal cause of the mourning. This is a good example of the few instances where cause and effect are correlated and are misconceived. But these conditions are not recondite to science. How few conditions are now-a-days! Science says—because the lean man can run faster, undergoes greater activity with less fatigue than his obviously “better-to-do” brother, with his reserve fat; so the unfettered, non-congested (non-crowded) cortical cells of the brain, freed from the crowding of the blood-cap (hyperemia of meninges) of an over-wrought circulation, with consequent sluggish removal of the waste matters, gives an opportunity for a refining generation of function not otherwise attainable.

Beyond this point—beyond “the last bright flash” lies the starving, or disrupting stage; and from thence onward there is degeneration.

Whatever the relation may be, the fact (probably that is all you wanted) is that consumption and insanity are frequently interchangeable. I have known families where “the mowing down” of its members was quite equally divided between the two; although, as a rule, consumption had the last word, and the final stroke. I have heard

mothers wonder whether Mary or Ellen would get consumption or go crazy, settled in her mind that it would be one of the two (claiming the heredity was paternal).

The second and more complete article is as follows:

My Dear Mr. Bell:

I am grieved that an unlooked for incident has raised obstacles to my meeting with you on the 19th inst. But in lieu of my presence on that interesting occasion I will briefly outline some of my views of the relations of insanity and tuberculosis in this country, as an addition to my former communication to you in re this theme.

I refer to our own nation in particular, because I am better apprised of conditions of living (and of death for that matter) existing within it, both in their abnormality and diversity, than in the more distant civilized countries. The relative components of all degenerative bodily states, are largely governed both in predisposing and immediate issues by the current (every-day) manner of life of individuals, of families, of communities. You can conceive if you accept this postulate how deep the truth may lie, and how we—the apostles of “know-it-all”—may lie in assuming to expound it. (I humbly beg your pardon, for this is a serious subject and I assure you that I am conscious of it). Even in a strictly pathological sense, in which laws are supposed to be universal, it may be said that bodily tendencies and resistance are as varied as the races, if not more so. Thus, in not a few specific morbid states which are communicable, or infective, nationality often infers immunity.

“What manner of man art thou?” How much burden can you bear before you faint and sink? A long line of forebears stretching over the horizon of the past must join with the individual’s environmental development and his way of life in the present to make the man’s measure of resistance. When this is averaged by communities, there is a difference; when by nations, it is classifying. A man’s physical birthright may be a curse or a joy, as he is enabled and wills to live and govern himself. What has this to do with insanity or tuberculosis? About the same as a testamentary grant of a stony and unprofitable farm has to do with the subsequent foreclosure of the mortgage (to use

a simile in your line), You may rest assured when death forecloses each lease of life, the account will show many such results.

The explosion of myths has been an occupation of the students of the world for the past few years. Especially, have dogmas respected on account of age, which have rested on statistical foundations, and have been exploded by facts of science, largely added to this pyrotechnic display. One of these closely related to your inquiry it was my pleasure to personally "touch off," and I will briefly allude to it. It was built from decades of statistics of public insane asylums, both here and abroad. That insanity and tuberculosis had close relations, and especially that the latter was a pathological selection of the former and tended toward it as the closing chapter of life's tragedy, seemed to be established by endless mortality tables of these institutions. These data uniformly showed that the mortality of the insane from tuberculosis exceeded very largely the ratio of deaths from this cause in communities of like numbers, or even proportionately that in general hospitals. During my many years in charge of the insane (especially of the chronic class) at the Willard Asylum on Seneca Lake, I watched with growing discouragement the increasing mortality due to this stupendous morbid process—consumption. With the enlightenment which was then in its infancy, relative to germ diseases in particular, I conceived the possibility that conditions more than insanity might explain this gross anomaly of death; and that if such segregations of human organisms could once be placed under proper and hygienic conditions of living in an immune environment, at least the truth would be better known; for at that time no institution for the insane existed where these conditions pertained.

The opportunity came to meet my growing conviction. I was given control of designs for the St. Lawrence State Hospital, and afterward selected to organize and administer its affairs during its earliest years. I was thus enabled to supplement constructional with administrative requirements to the end in view; and I state it without fear of contradiction, that during this brief term of years, before the established State policy of over-crowding, and

other eleemosynary taints could be inoculated, a higher standard of hygienic living did not exist than in this model hospital for the insane and witless. Note the result! The population of the new place comprised transfers from the class which were furnishing the statistics herein referred to, and even a more physically degenerate class from the county almshouses. They were taken from hotbeds of "consumption" and placed under a standard of living in a hygienic sense far above the average of any community in the State.

The result of this experiment (for its meager existence of two or three years makes it merely that) was a reduction in the ratio of mortality from tuberculosis far below that of any village or community, or in fact any aggregation of people in the State. It is a matter of public record available to any; it is not an opinion, but a fact, and such a plain one in its relative features it will not require any further elucidation.

However, this does not go so far as to establish the negative side of your inquiry by any means. On the contrary, it merely determines the very unimportant question, whether in extinguishing the last spark of life in one degenerative condition another degenerative state is selected; and our illustration shows that the insane, when insanity is once established, are no more likely to die of consumption than are the less afflicted of their contemporaries. There was another interesting result of this so-called experiment. Among the nearly one thousand patients received at St. Lawrence, there were many suffering with phthisis at varied stages of advancement. It happened that some of these died from other causes after a considerable period of residence there, in which the autopsy showed pulmonary cicatrices. This means that these patients when received were suffering from an advanced stage of consumption, and that cavities had been formed in the lungs, but that the new conditions under which they lived overcame the specific morbid process, the lung-sore healed up and left these scars. It shows that an individual may be both insane and consumptive and yet recover from consumption. The deduction must be formulated by the reader.

But these are terminal conditions. The etiological relations—causative nearness—is another matter and would require an interminable discussion to reach a satisfactory conclusion. I believe there are physical relations which lead from tuberculosis to weakened nervous tissue, and in this way to psychic degeneration. Neither tuberculosis nor insanity per se can be inherited; unless, of course, as a congenital state of disease, or as idiosyncrasy of the first degree. This is another of the exploded myths. What is known as "predisposition" may be a heritage, but this is scarcely more than a weakened resistance of the somatic functions to the antagonisms of the body. Thus, among the representatives of the various classes comprising a typical American community subjected to the specific poison or virus of some disease, a certain number will resist it, and others will succumb to it. If the infection be tuberculosis, it is frequently the case that the children of parents who failed to resist in their generation, are the ones lacking resistance in this; and although this has many exceptions, they are not sufficient to controvert a rule.

At one time the belief was so strong—and even at the present day it seems to be almost a universal belief with the lay public—that an inherited trait tending to tuberculosis, pointed unavoidably to its early development and death. The medical profession know better now. There are avoidable and unavoidable fates, if inherited tubercular cachexiae are fates; and it is now well known that tuberculosis can be immunized against in any class of physique, if the required circumstances are available. I am constrained to more radical views, that the ingrained characteristics of the body known as congenital heredity may be governed, raised, and so-called tendencies to disease be avoided in the progeny of the succeeding generation, in many cases, but in the one following that beyond question, if certain known conditions of living and conduct are subservient to such a purpose, and are begun sufficiently early in the years of development.

Of the several kind of tissues of the body which form the framework or house for the several functions, the nervous tissues are most resistant to lineal influences, as the nervous functions are the most complex and sensitive. The highest

class of nervous function is known as "mind." When this exalted nerve force is disordered, or disconnected more or less permanently, it is known as "insanity." What relation does such a disorder bear to tuberculosis more than to other degenerative diseases? I don't know, and I doubt if any one knows, but there are inferences to be drawn from experience. In genealogical histories it is commonly observed that families possessing certain environing, or rather confining, suppressing, stagnating tendencies, as families, become extinct in a few generations. The closing chapters of these families, especially the last representatives, are usually insane, idiotic, criminal, epileptic, or suffer from other forms of the higher nervous functions referred to, together with impotence, of course. And then there are other instances where the last generation is rapidly and completely wiped out with consumption. And, again, a still larger proportion where the family history has its last chapters marked here with tuberculosis, there with idiocy or insanity, or alternating with crime and dipsomania—and all impotent, thank God!

We know it is so, but we don't know why. There are some beautifully woven theories—I have several of my own—but why record them, only to have them exploded in the rarefying atmosphere of the science of the near future. No; I have already written into the wee sma' hours, and if you as reader feel like the writer, we don't care; unless with knowing reasons we also know of remedies. Available remedies, mind you, for if the remedies already known could be universally applied, or heeded, the average tenure of life would be lengthened, and sorrow and death—the mourned dead—the untimely dead, from such scourges as you now have under your consideration, would be rare indeed.

To briefly sum up, let me state my belief that the hereditary tendencies of tuberculosis are conducive to a weakened nervous system, especially of the higher centers; rare exceptions being an anomalous development of intellectual brilliancy which has added not a few units to our history of literature and science; such instances occurring at the beginning of the degenerative stage. Tuberculosis as a prevailing disease factor has no closer relation to insanity

than other prevailing diseases involving the same degree of hardship and nervous strain. The insane, as such, have no more tendency to tuberculosis than to other diseases or than the sane, measured by conditions of living and exposure. And, finally, I believe the question has no social, medical, or medico-legal bearing of sufficient weight to make it worthy of prolonged consideration, except for philosophical reasons, which makes it alien to my psychic bailiwick.

AMERICAN CONGRESS ON TUBERCULOSIS.

New York, July 1, 1905.

Dear Colleague:

You were a delegate to the American International Congress on Tuberculosis of 1904, held at the St. Louis Exposition, but did not pay the enrolling fee. You and many others took a deep interest in the work of that body and we believe feel still a great interest in its success. This Journal, under contract with the American Congress on Tuberculosis, published the Bulletin of that Congress under the supervision of its editor and it appeared June 2, 1904, to which every enrolled member was entitled to receive a copy, who had paid the enrolling fee of \$3.00.

The Medico-Legal Journal has made the same contract to bring out the Bulletin of 1904, and furnish the same to all the enrolled members of the Congress that met at the St. Louis Exposition of 1904.

This Journal during the year 1901, and early 1902, prior to the session of June, 1902, published the larger part of the papers read before the Congress of 1901 in its columns, so that the readers of that Journal received in advance of the issue of the Bulletin, all the transactions, programme and a resume of its labors.

The delegates named by the Governors of States for both the Congress of 1901, 1902 and 1903-4, or nearly all of them received the Medico-Legal Journal through the courtesy of its managers. Many of the members and delegates became subscribers to it at half price, a reduction that was offered to the enrolling delegates to either of the Congresses. The Medico-Legal Journal now offers at the opening of its 23rd volume, beginning with June number, 1905, to furnish every delegate named by Governors of States, State Medical or other Societies, the Journal at half price, \$1.50 payable in advance. This will enable you to have all the work of the American International Con-

gress of 1904, held at St. Louis, in advance of the Bulletin's appearance of that Congress. We will also send you, so long as the edition lasts, the Bulletin of the American Congress on Tuberculosis for 1901 for \$1 and 10 cents to cover postage, and that of 1902 at the same price.

The American Congress on Tuberculosis extended the time for contributions of papers to go into its Bulletin until August 15th, 1905, subject to the censorship of a committee named to pass on all contributions. All such applications made to the editor of this Journal will receive prompt attention.

This letter will be sent, besides the delegates to both of said Congresses, to authors and such officers and friends of the work as we think would take any interest in the subject, who are invited to accept the same terms as are here offered to delegates. Please reply.

Address and remit to

THE MEDICO-LEGAL JOURNAL,
39 Broadway, New York City.

AMERICAN INTERNATIONAL CONGRESS ON TUBERCULOSIS.

American International Congress on Tuberculosis, held October 3, 4 and 5, 1904, under the auspices of the Universal Exposition, St. Louis, 1904, of the American Congress on Tuberculosis, and of the Medico-Legal Society of New York.

American International Congress on Tuberculosis. Office of the Chairman Committee on Organization; of the Board of Executive Officers, and Treasurer, 39 Broadway, New York City.

The following are the officers elected at the Annual Session of the Congress at St. Louis:

HONORARY PRESIDENTS.

Lay:

Hon. General Russell A. Alger, Ex-Secretary of War, United States Senator from Michigan, Detroit, Michigan.

Hon. Clark Bell, LL. D., Chairman Committee on Organization; Chairman Executive Board and President of the Medico-Legal Society, New York City.

Hon. Abram H. Dalley, Ex-Surrogate and Honorary Member Medico-Legal Society, Brooklyn, New York.

Hon. Porfirio Diaz, President of the Republic of Mexico, City of Mexico.

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Hon. Stephen B. Elkins, United States Senator from West Virginia, Washington, D. C.

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W. B. Fletcher, M. D., late Superintendent State Hospital for Insane, Vice-President American Congress on Tuberculosis, Indianapolis, Indiana.

Hon. L. F. C. Garvin, M. D., Honorary Vice-President of the Congress, Governor of Rhode Island.

Sir William Hingston, M. D., M. P., Honorary Vice-President of the American Congress on Tuberculosis, Montreal, Canada.

Prof. Dr. Charles H. Hughes, Editor of the *Alienist and Neurologist*, Honorary Member of the Medico-Legal Society, St. Louis, Mo.

Prof. Dr. Herman Kornfeld, Honorary Vice-President of the Congress, Honorary Member of the Medico-Legal Society, Gleiwitz, Germany.

Hon. Miguel A. Otero, M. D., Honorary Vice-President of the Congress, Governor of New Mexico, Santa Fe, New Mexico.

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General Presley M. Rixie, M. D., Surgeon General United States Army, Washington, D. C.

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THE AMERICAN CONGRESS ON TUBERCULOSIS AND THE MEDICAL PHARISEE.

The gifted Dr. F. E. Daniel, President of the American Congress on Tuberculosis, and President of the State Medical Society of Texas, pays his respects to the Medical Pharisee, who assailed the work and motives of the men who carried forward the work of the American International Congress on Tuberculosis last year, at St. Louis, with that vigor which characterizes his labors in that and other fields.

We quote from his editorial, in the June Number of the Texas Medical Journal, his criticism of Dr. Simmons, who used the columns of his journal in 1904 to an unmerited and unjust assault upon the contemplated work of that Congress, which was intended to divide the medical profession in its support of an effort to arouse the public mind of the country in a general and combined union of all the professions in favor of preventive legislation to arrest the spread of tuberculosis, and to help to form a public opinion in favor of the passage of such legislation, not only but of enforcing it when passed.

Dr. Daniel says, editorially:

THE CHICAGO OCTOPUS,

The Journal of the American Medical Association.

ITS EDITOR, ITS AIMS AND ITS METHODS.

New Converts Shout Loudest.

The present editor of the great (so called) organ of the American Medical Association, I have always understood, is a reformed homoeopath, who practiced on an exclusive (and absurd) dogma twenty years. If this be true, it will account for much in the policy and course of the publication, which, unfortunately for the mass of the profession, he directs, on the principle that new converts shout

loudest. In no other way can his newly awakened fanaticism on medical ethics be accounted for. "Their sectarian title makes them quacks," says the old code, which code has been abandoned for the milder "principles of ethics" since his accession to the mantle of Father Davis and the great John B. Hamilton (by the bye, it is much too large for him and swallows him as a peck measure would a pea). His zeal in the cause of "ethics," which he has so recently espoused, leads him to extremes. He would out-Herod Herod. He has instigated and brought about the creation of a commission or committee of censors who promulgate the order that proprietary medicines are unethical, and unless the proprietors will surrender for publication the secrets of their business, make common property of the formulae for making their products, so that every substitutor can make and sell "something just as good," they are to be tabooed, and denied space in the pure and undefiled pages of the great "ethical" organ, ye Octopus! Great Caesar! The sword of Democles was not half so terrible. Pity isn't it?

This ridiculous and impossible policy, I am sure, does not represent the wishes and views of the medical profession of America, of which 85 per cent. are not members of the American Medical Association, and, unless a broader and more representative and popular man be put in the editorial chair, and becomes the director of the business affairs of the Association, never will be. It does not represent the wishes of the 15 per cent. who have been coaxed, bull-dozed or otherwise induced to join the Association. I'll give an instance in support of this assertion:

The American Congress on Tuberculosis was the first body organized to fight tuberculosis. It was organized in 1900, and held its fourth annual session in St. Louis, in October, 1904, under the auspices and upon invitation of the World's Fair management, and the patronage and authority of the Federal government. Secretary of State Hay invited delegates to be sent from all foreign countries. The meeting was successful, largely attended, and gave the first impetus to the movement now so general, enlisting influences that will be effective in limiting the spread of consumption. It was participated in by many of the most distinguished physicians from Canada and Nova Scotia, Mexico, Central America, South America, Cuba and Porto Rico and of the South and West; Illinois, the home of the Octopus, being largely represented, prominent members of the A. M. A. and readers of the great Octopus. Dr. Simmons, ye editor, devoted one inch of the valuable space at his disposal to a sneer at the "so-called Congress on Tuberculosis." Common decency, or, at least, a decent regard for his readers, many of whom are members of the Congress, working earnestly in the cause of humanity and the public health, demanded the support and approval of the great so-called representative organ" of the great A. M. A., and the neglect of it was so clearly the result of personal bias and prejudice towards the organizers of the Congress (the Medico-Legal Society) on the part of ye narrow editor as to excite disgust.

Thus has the Journal of the American Medical Association aroused antagonism in the ranks of the profession, when a broader, more liberal and sensible course would have cemented the friendship of the members and built up the Association. Not only has antagonism in the ranks been aroused, but a large element of the medical press is arrayed in hostility against it; and the proscription of the high-class pharmacal products, along with the nostrums in the newspapers, no discrimination except on impossible and outrageous terms, has aroused the animosity of the powerful proprietary interest, driven them to organize for defense, and set in motion influences which may lead to the withdrawal of patronage altogether from that organ, and perhaps all medical journals.

We quote from Dr. Daniel's vigorous denunciation of the schemes and methods of Dr. Simmons, whom he calls the Octopus of the Medical Press.

The Medical Association of Texas, under the old organization, crumbled constantly. It was building up and falling down, so that, from 1884 to 1903 inclusive, it gained only 100 members and represented only 6 per cent. of the profession of the State. We joyfully hailed a plan of reorganization that seemed to remedy this, and secure cohesion; hence, we all worked for it with a vim, co-operating with the paid organizer (paid by the Octopus), without a suspicion of the ulterior and nefarious object aimed at by that great Devil-fish, which, in the light of recent developments, is revealed. Why should the A. M. A. pay to have the State associations organized? It was an investment. Every member whipped in is \$5.00 for the Octopus. The Octopus has corralled the State associations, and, through its tentacles (State Association journals), is, like its prototype, making them feeders to its rapacious jaws. Its object is to crush out all individually owned medical journals that have the courage to criticize it; and, co-operating with the patent-medicine interest, with which (the American Medical Journalist says) it has made a "combine" and an agreement for co-operation to suppress such proprietary medicines as will not make common property of their formulae. The American Medical Journalist adduces evidence of such an agreement. (See March and April numbers of that publication.) If there is a shadow of truth in this charge, it is enough to excite derisive laughter and provoke indignation and utter contempt for a publication which, while posing as the representative organ of the medical profession of America, and champion of medical ethics, stands in with the promoters and exploiters of the worst nostrums on the market, the newspaper catarrh and syphilis and lost-manhooood specifics.

In brief, I conceive the aim of the Octopus to be, in addition to the scheme above pointed out, the establishment of a great medical journal trust, and, already, many of the State Associations have fallen into the trap and are applying the screws. Well, you will see that they will have their eyes opened perhaps when it is too late; and what a falling off, my countrymen, there will be! When the rich and grasping Octopus shall have accomplished its nefarious purpose, and has the State associations "grabbed," ye scheming editor can say, as did he of Khorassan: "Ye would be dupes and ye are."

Dr. Daniel Continues his scathing attack on these methods as follows:

The methods inaugurated by ye Octopus may be summed up in few words: Bull-dozing, intimidation, threats of ostracism, denunciation as unethical, exclusion from list of ethical preparations, exclusion of the 85 per cent. of doctors from "Who's Who." In short, Trades Unionism!

* * * * *

The "Red Back" has ever been the champion and defender of medical ethics, which we understand means pure morals, right living, consideration for others and the rights of others. This, of course, embraces charity, tolerance, right and justice. There is a vast difference between ethics and fanaticism. I want to say here, that I do not consider the use by physicians of the better class of proprietary medicines made for and advertised solely to the medical profession as a breach of the Principles of Ethics adopted by the American Medical Association. See Section 8. On the contrary, it

is right, proper, and necessary. It is convenient and economical. Such articles are not "secret medicines," "nostrums," in any sense. Every physician knows in a general way what they are composed of and the dose. Our profession claims to be eclectic, broad and comprehensive, and claims the right to use anything and everything for the cure or alleviation of disease, material or immaterial, that experience has shown to be beneficial; and the practice of medicine is, essentially, empirical, in the sense that our knowledge is gained by experience. Who knows how drugs "cure"? For years the use of quinine was entirely empirical. It had been observed in thousands of cases that it would cure chills, but how? A physician is justified in using anything that his judgment dictates, and which he knows from experience, or the experience of others, will benefit his patient. The dictum from headquarters that he shall not prescribe proprietary medicines is high-handed, dictatorial and an insult to his intelligence; and the assertion that he lets the pharmacist think for him is the veriest tommy-rot. The Octopus wants to think for him.

* * * * *

Will the vast body of American physicians be thus "like dumb cattle driven?" by a fanatical howler for "ethics," which every issue of the Octopus violates according to the standard he has himself established? Or will they demand his removal, and that one of the Davis or Hamilton kind be seated on the tripod, who will make the Journal A. M. A. what it formerly was, and not the laughing stock for many good men, the vehicle of coercion and intimidation, through which our new convert may vent his spleen and dislikes, by sneering at any movement for the betterment of man, that does not originate with Him.

AMERICAN INTERNATIONAL CONGRESS ON TUBERCULOSIS.

Held October 3, 4 and 5, 1904, under the auspices of the Universal Exposition, St. Louis, 1904, of the American Congress on Tuberculosis, and of the Medico-Legal Society of New York.

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ADDENDA.

LIGHT,

Its Therapeutic Importance in Tuberculosis as
Founded upon Scientific Researches

—BY—

J. MOUNT BLEYER, M. D., F. R. A., M. S., LL. D.,
Vice President American Congress on Tuberculosis.

Contributed to the
American International Congress on Tuberculosis,
Held at St. Louis, Oct 3, 4 and 5, 1904.





J. MOUNT BLEYER, M. D., F. R. A., M. S., LL. D.,
OF NEW YORK.

[With Compliments of the Author]

**LIGHT—ITS THERAPEUTIC IMPORTANCE IN TUBERCULOSIS AS
FOUNDED UPON SCIENTIFIC RESEARCHES**

BY

**J. Mount Bleyer, M. D., F. R. A., M. S., LL. D.,
Vice-President American Congress of
Tuberculosis.**

**REPRINTED FROM
THE JOURNAL OF TUBERCULOSIS,
OCTOBER, 1902**



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AS FOUNDED UPON SCIENTIFIC RESEARCHES.**

BY J. MOUNT BLEYER, M. D., F. R. A., M. S., LL. D., VICE-PRESIDENT AMERICAN
CONGRESS OF TUBERCULOSIS.

It is a trite saying that "There is nothing new under the sun!" Like many other familiar phrases, this is frequently uttered without any real perception of its scope. *Nothing new*, indeed, and yet the world moves ever onward! Then what is progress, or is there anything or any idea to which the word *progress* may be applied? Every now and then the world is electrified by some new idea, or some new discovery! Then, lo, some delver in ancient lore, some seeker in forgotten mines shows that the new idea is even old, perhaps the new discovery nearly as old as the world itself. Facts are ascertained, demonstrated, taught, learned and——forgotten. Theories vague and uncertain, even in the minds of their weavers, are accepted for science! Then, lo! the old forgotten facts spring again into view and the theories flee, to be forgotten in their turn, only with this difference, that there is no resurrection for them!

It is not very many generations since the world knew nothing of the solar system, its marvelous revolutions and the laws that govern its sun, moon, stars and planets. Sir Isaac Newton made some astounding discoveries, and there was doubt, astonishment, consternation. The world was not unwilling, but unable to believe. To-day, men look back and wonder how any one ever believed otherwise than in accord with the now accepted science of astronomy which has acquired a countless number of facts since Newton assigned to our sun its rightful place and authority in the system of astronomy that is almost an exact science.

Since Newton's day, it has been ascertained that many centuries before, even in the sixth century before the era of the "Sun of Righteousness," the famous Ionian philosopher, Anaximander, the first systematic writer on philosophy, had an inkling of some of the marvelous facts of astronomy. Strangely mixed with wild theories, were the ideas conceived of the solar center and its relation to the earth and heavenly bodies revolving around it. Then we learn that the great Pythagoras actually knew all the chief facts concerning the movements of the sun, the stars and the planets. He even knew that the stars were suns of systems like ours, and advanced the theory that the planets are worlds, cheered and animated with life, similar to, if not like, ours; he was also acquainted with the two physical forces, attraction and repulsion;

nay, he knew what modern science has not fully rediscovered; that the visible suns were emanations from and dependent upon an invisible, original, central sun, the sun of the universe, the celestial power whence the forces of nature are derived. We learn that from time to time, there were others who knew more or less of the truths which science proved, even before the time of Copernicus whose knowledge was marvelous, and of Galileo, who had to answer to the Roman hierarchy for knowing more than the Church. Indeed, so much of the Newtonian philosophy do we find in the ancient, that we cannot doubt that he had been exploring the old mines of cabalistic lore, and reached his great discoveries by following up clews gained therefrom.

But the special purpose of this paper is to promote the well-being of mankind in this probationary world, by advocating light and its rays as the great remedial agent for the human organism when from any cause whatever, internal or external, the equilibrium of health is disturbed and disease wastes the body and deranges the mind:—nay, even when there is no clearly defined disease, but only feebleness and an indisposition for physical and mental effort. Of course to apply any remedy successfully, it is essential to know the characteristics and qualities of that remedy, and the features and functions of the organism in the condition of health. There are idiosyncrasies or differences in individuals, but the human organism in health, is much the same, not only throughout each race, but even throughout the family of man; and while some medicines act promptly and effectively in some cases, refuse to act in others, and act injuriously in still others where the symptoms are identical, yet light and its rays will be found exceptional in this respect and they seldom fail to effect just what they are designed to effect, when rightly administered. We can attribute this exceptional efficacy of light to the fact that it is essentially and especially nature's remedy, and therefore, peculiarly adapted to assist nature in banishing disease and restoring health.

Bacon declared:—"There can be no real knowledge but that which is based on observed facts;" and the undisputed truth of this fact has been admitted by all eminent thinkers since his time.

A fact new to man's knowledge—the blackening of a white salt of silver presents itself and naturally the discoverer seeks to find the cause to which the phenomenon is due. The salt of silver remains perfectly white as long as it is kept in darkness; but it blackens when exposed to the sunshine. Consequently the change of color, which is all that was at first observed, appearing to be connected with light, calls for an interpretation of the phenomenon. Man starts to solve the problem, forms an hypothesis and says: "The calx of silver separates the phlogis-

ton from the light and retains the superfluous phlogiston of light." Men of science have changed their views; but their mode of reasoning on this phenomenon is as much guided by preconception as was that of Scheele, when he was disposed to refer the decomposition of chloride of silver to phlogiston.

Conjecture is a process, common to every mind; we all frame hypotheses as we endeavor to advance from effects to causes. The strictest inductive philosophy allows of this; but the hypothesis must not be permitted to take the place of a theory, which is an explanation based on a large number of well observed facts. Newton's fundamental rule was: "No more causes, nor any other causes of natural effects, ought to be admitted than such as are both true, and sufficient for explaining their appearances." To account for many of the phenomena of light, philosophers have conjectured that the unknown *something* to which they are due has a wave motion, that the *ether* pervading all space, being set in vibration or tremor, affects the eye with the sensation of light. Since this hypothesis explains the greatest number of luminous phenomena, it is generally received. However, it must not be forgotten that we arrive at this hypothesis by reasoning from analogy. If we cause a stretched string to vibrate, its pulsations are communicated to the surrounding air, and the waves thus produced beat upon the auditory membrane and produce sound. We know the fact of the existence of the air; the fact of the vibrating cord; and if we place some peculiar arrangements of mobile bodies between the cord and the ear, we prove that the air partakes of the undulations of the string. Upon a fancied analogy, hypothesis creates the *ether*, and then sets it vibrating to produce an effect on the eye of a similar order to that which the air produces on the ear—that is undulations, in one case, give rise to sound, in the other to light. A most eminent European thinker has written: "Notwithstanding all arbitrary suppositions, the phenomena of light will always constitute a category *sui generis*, necessarily irreducible to any other; a light will be forever heterogeneous to a motion or a sound."

Let us, for example, take the strange fact that chloride of silver darkens upon exposure to sunshine, or to daylight; that is what we have to examine into. We may take this simple phenomenon of change as representing all that I shall bring to your notice in this paper, the differences being only of degree. Since this white salt of silver will not darken in the absence of light, it was reasonable that the change should be referred to the luminous element; hence those pictures produced in the camera by the influence of the solar rays have been called photographs. When, however, we proceed with an examination and

clearly understand all the conditions under which chloride of silver changes color in the sunlight, we cannot fail to observe the several peculiarities following:

1st. Those rays which give the most light—the yellow and the orange rays—will not produce change of color in the chloride of silver.

2nd. Those rays which have the least illuminating power—the blue and violet—produce the greatest change, and in an exceedingly short space of time.

3rd. The rays which pass through certain yellow glasses have no effect on chloride of silver.

4th. The rays which pass through very dark blue glasses, rapidly change the color.

The yellow glasses obstruct scarcely any light; the blue glasses may be so dark as to admit of the permeation of only an exceedingly small quantity.

5th. Where there is no sensation of light under ordinary circumstances, beyond the violet rays of the spectrum, the chemical change is speedily produced.

Reasoning upon these facts and some others of still more striking character known to us, it appeared to M. Berard that “solar light consisted of three substances,” to which severally belonged, “the calorific chemical phenomena.” This hypothesis did not, however, receive any support from the physicists of his time, and the weight of several eminent names was brought in support of the opposite view. The eminent Dr. Young’s experiment demands an attentive consideration however, though it proves no more than this, that, as in the ordinary refracted spectrum, the chemical action is found at its maximum about the region of the violet rays; so in the interference spectrum, the chemical change is confined to the violet rings.

We must certainly come to the conclusion that the rays which produce the chemical changes under consideration, are subject to the laws of refraction and interference like light. But, if they were light rays, it cannot be conceived why, in the yellow, and therefore most luminous rings, no chemical change occurred.

Again M. E. Becquerel and Prof. Stokes have proved that the chemical impressed spectrum—over those spaces which are more especially chemically active—exhibits inactive lines which exactly correspond with the dark lines of that same portion of the spectrum when rendered luminous. This, however, proves no more than that the cause which occasions the absorption of light along certain lines does, at the same time, occasion the absorption of the principle to which the chemical agency is due. This view, as will be seen in the sequel, received also

the support of M. Arago, who, although most favorably predisposed to urge the theory of undulations, wherever it was possible to do so, did not fail to perceive that the phenomena of light and chemical action were heterogeneous.

"That there exists some, one, all-pervading principle—an ether—which may, under different conditions of motion, give rise to effects of a dissimilar character, is a probability which is not denied; it is, however, contended that the facts observed do not support such a conjecture in connection with the chemical changes produced by the solar rays."¹

"The undulatory theory supposes heat—I refer here, entirely to the conditions of the prismatic spectra—to be the result of a set of vibrations of a certain length and rapidity, and the ether thus vibrating, is, by the prism, bent only slightly out of its path. Light is the result of the same ether pulsating to a quicker time, consequently in shorter waves, the refraction being much greater.

Chemical action is produced by a system of vibrations, smaller and infinitely more rapid; while the bending of this set of waves—the chemically active ray—is to a much greater angle than either of the others. This is the hypothesis; now, take a fact. By means of two prisms, two spectra are formed, each of which produces upon chloride of silver, a chemical change from the green ray to some distance beyond the visible violet. Each spectrum is now so arranged, that the inactive yellow and orange rays of one are thrown upon the most active blue and violet rays of the other. The result is, that the chemical action is entirely stopped. This may be said to be due to interference; but, I must confess, I cannot understand upon what principle the action of rays undulating 535 millions of millions of times in a second, and producing light, can interfere with rays vibrating 737 millions of millions of times in the same period, and producing, as experiment proves, chemical change. To support the view, that light regarded as an undulation produces chemical change, since the chemical cause must reside in—must be—the particular ray and nothing else, it is necessary to prove, that when a colored ray of light is obliterated, all chemical action should cease over the space which belongs to that special ray: and also that when the luminous colored ray is not obstructed, its chemical power should still exist undiminished. Experiment shows in the action of an absorbent medium that the blue rays, regarded as the rays to which the maximum chemical effect belongs, may be entirely obliterated without the chemical effect ceasing; and that under other conditions, the blue

¹Robert Hunt, F. R. S., London, 1884.

ray may appear clear and intense in the spectrum thrown on the chloride of silver, and yet produce no chemical effect."

Robert Hunt says: "After many years of close experimental examination, and an equally long and careful study of the hypotheses applied in explanation of the phenomena of light in the first place, and subsequently to the chemical phenomena associated with light, I cannot bring my mind to adopt the view, which refers the photographic phenomena to the agent producing the luminous and calorific phenomena of the solar rays. As it respects light, I am quite ready to bow to the numerous high authorities who support the undulatory theory. Not so, however, with regard to the chemical radiation."

Careful study shows the amount of support which the following views receive from experiment.

Light, heat and chemical power come to us associated in the sunbeam. No two of the phenomena produced by these agencies are similar. They do not obey the same laws of refraction, although they appear to be capable of undergoing the conditions of polarization, etc.

A diaphanous body for light may be perfectly opaque to the chemical power, and a medium nearly opaque to light may be quite transparent to the chemical principle. Heat, not being the subject here under consideration, does not require any particular mention; the power that we possess, however, of separating light and heat is known accurately.

Therefore, regarding the chemical principle as something distinct from either light or heat, it becomes necessary to establish some term by which it may be recognized. Mr. Hunt's views, based on experiment, as here stated, were not hastily adopted by him, as is shown by the fact that the term *actinism* is now universally adopted.

"The science of thermotics (Whewell), or of thermochroology (Melloni), is considered of sufficient importance to have its nomenclature, and M. Melloni in a paper published in the *Bibliothèque Universelle de Genève*, October, 1841, has entered very fully into the matter. It is therefore essential to the successful prosecution of this inquiry that the third class of phenomena, in the consideration of which I have been particularly engaged, should have a term by which it may be distinguished. Sir John Herschel, in his memoir, "On the Chemical Action of the Rays of the Solar Spectrum," used the epithet, *actinograph* to indicate an instrument of a very ingenious kind, devised by him, for registering the different degrees of chemical power accompanying the solar light, during the day.

At the meeting of the British Association at York, the value of the term was discussed. Sir John Herschel read a paper entitled

"Contribution to Actino-Chemistry," on which he spoke before the section of chemistry. It was thought advisable to adopt the term *actinism*, when desiring to speak of the chemical power of the sunbeam.

It may be necessary to remark here, that the chemical powers belonging to light and heat are scarcely to be confounded with actinism. Light does, by exciting vitality, in living organisms, produce chemical decomposition, and there is reason for believing that light acts chemically on dead organic matter, but never on inorganic masses. Heat, as a radiant force, also produces changes of a peculiar kind, but these are broadly distinguished from the effects produced by actinism.

It may be asked, at the outset, what has all this talk to do with therapeutic study of light, or with physiology or the allied application of the whole science of medicine. I answer my critics thus:—The physical study of light from all its varied physical phenomena is most essential to our knowledge, if we wish to apply it in this domain. Even each ray of the spectrum gives its own specific reaction according to scientific research, which is now known to us and it is therefore, that specific uses and study of these independent rays in the treatment of disease must be thorough, if intelligent application of them be made. With these remarks, I propose to give here some of the most interesting phenomena discovered in connection with light rays in order to permit you to pass judgment on the value of light from both the physiologic and therapeutic points of view.

There are in science, few subjects so obscure as that of which I shall speak: What is the essential nature of light? How do we see the universe? How does a luminous body radiate, and by what vehicle do its rays reach our eyes? What are, even, these rays? Man has discussed this great problem for thousands of years. The ancients believed that the rays might be shot forth from our eyes to lay hold of objects far away; Newton thought, on the contrary, that objects emitted luminous particles, which pass through space and strike our retina. Young and Fresnel have since shown that luminous bodies do not emit any material particles, but cause the surrounding fluid to vibrate, as a bell makes the air vibrate. This has led us to imagine, as indispensable to the propagation of light, a certain fluid named *ether*, which is extremely light and disseminated through all space. To Young belongs the honor of having stemmed the flood of authority which, since Newton, had opposed the progress of optics, and of leaving established this theory on a basis which now appears to be definitely assured.

Just as we see the circular waves of a sheet of water succeed one another round the point where the water has been struck, as air con-

denses and dilates in spherical waves, round the resounding tuning-fork, so the ethereal fluid which fills space gives birth to a series of spherical waves, succeeding one another all round a luminous body. The waves of water are transmitted so slowly, that the eye easily follows their motion; those of the air fly with the velocity of 1,100 feet per second, varying with the temperature and the density of the atmosphere; those of the ether pass through immensity with the dizzy velocity of 186,000 miles per second. The most marvelous fact is that every star, every sun in space, is the center of constant undulations, which, thus, perpetually cross one another through immensity, without ever being confused or mutually mingled.

In the final analysis, every thing is reduced to several causes which are governed by certain laws that explain the entire subject. Taking this altogether, it is found to be a universal harmony which the physical ear cannot hear, but which the intellectual ear can understand, as Pythagoras supposed. And is it not music itself which vaguely lulls us on its seraphic wings, and so easily transports our minds into ethereal regions of the ideal where we forget the fetters of matter? Do not the sonorous undulations of the organ, the sweet quiverings of the bow on the violin, the nervous languors of the cythara, or the still more captivating charm of the human voice, unite the raptures of life with the warm colors of harmony? What is it except an undulatory motion of the air contrived to reach the mind in the depths of the brain and to impress it with emotions of a special order? When the spirited tones of Yankee Doodle and other national airs are borne, in the heat of the conflict, to the excited battalions, or, when, under the Gothic vault, the sad "Stabat Mater" pours out its mournful notes, it is the vibrations which effect us by speaking a mysterious language. Now, all in nature is motion, vibration and harmony. The flowers of the garden sing, and the effect which they produce depends on the number and agreement of their vibrations relatively to those which emanate from surrounding nature. In violet light the atoms of the ether oscillate with the unheard of rapidity of 740 billions of vibrations per second; red light, which is slower, is produced by undulations vibrating even at the rate of 380 billions per second. The violet color is, in the case of light, what the highest notes are in the case of sound, and the red color represents the lowest tones. As we see an object floating in the water, obeying with docility the waves which come from different sides, so the atom of the ether undulates under the influence of light and heat; the atom of air undulates under the influence of sound, and the planet and satellite circulate under the influence of gravitation.

Harmony is in everything. To the eye of the person acquainted with the principle, nothing is more interesting than the crossing of waves of water. By their interference the surface of intersection is sometimes so divided that it forms a beautiful agitated mosaic of rythmical motions, a sort of visible music.

When the waves are skillfully produced on the surface of a disc of mercury, and this disc is illuminated with a pencil of intense light, this light reflected on a screen reveals the harmonious motions of the surface. The form of the vessel determines the form of the figures produced. On a circular disc, for example, the disturbance is projected



Fig. 1.

under the form of circular waves producing the magnificent *chasse-croissé*, represented in fig. 1. The light reflected by a similar surface gives a design of extraordinary beauty; when the mercury is slowly agitated with the point of a needle in a direction concentric with the circumference of the vessel, the lines of light turn round in a ring under the form of distorted, interlacing threads, revealing one another in an admirable manner. The most ordinary causes produce the most exquisite effects.

The undulations of sound may be expressed to the eye by figures

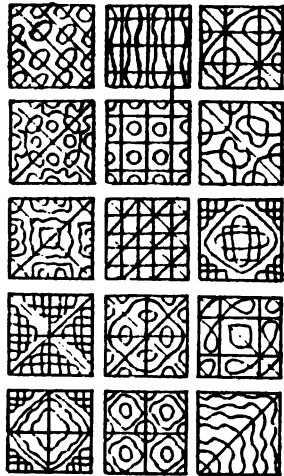


Fig. II.

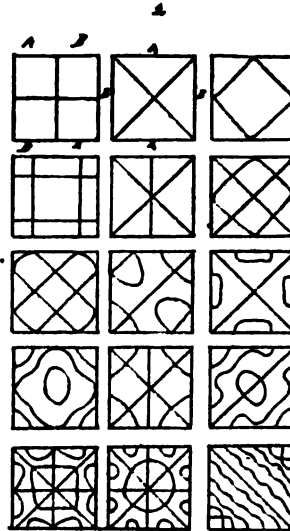


Fig. I.

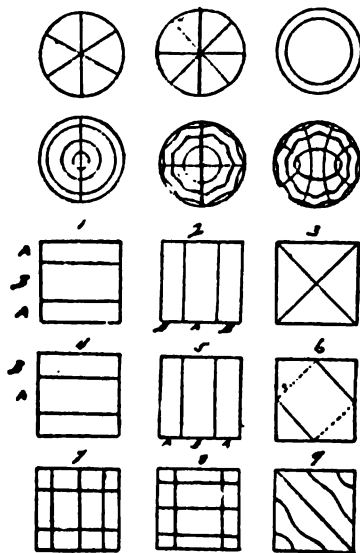


Fig. III.

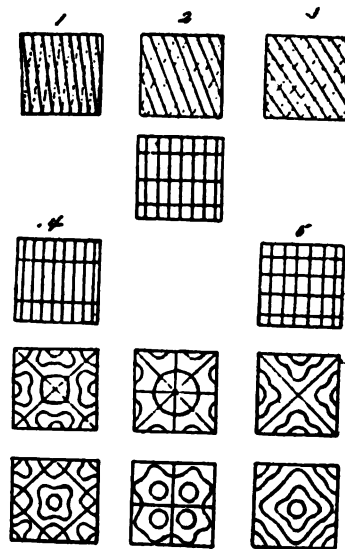


Fig. IV.

Fig. 2.—The Chladni Figures from Dr. J. Mount Bleyer's article on "Voice-Pictures and the Wonders of Sound-Force."

no less harmonious, no less pleasing, than the preceding ones. Let us take in imitation of Chladni, a plate of glass or a thin plate of copper, and sprinkle it with fine sand. Let us deaden one of its edges at two points, with two fingers of the left hand, and pass a bow along the middle of the opposite side. We shall see the sand trembling, falling back from certain parts of the surface, following the sounds obtained and designing the figures here produced (Fig. 2). By vary-

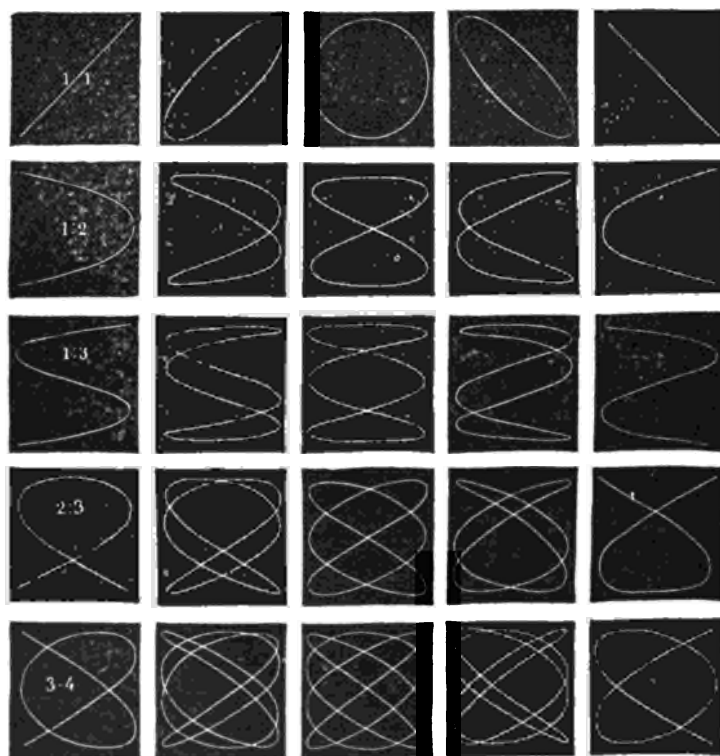


Fig. 3.

ing the experiment we thus obtain these admirable designs, which appear at the command of the bow of the skillfull experimentalist. The notes of the gamut are, besides, nothing else than ratios of numbers between the sonorous vibrations. Combined in a certain order, these numbers give perfect accord. Here, the major mode rouses and enrap-

tures us; there, the minor mode affects us and plunges us into melancholy and reverie. And, yet, there is here but a matter of figures! We cannot only hear these sounds, but may even see them. Let us make two tuning-forks vibrate by the ingenious method of Lissajons, one vertical, the other horizontal, fitted with little mirrors reflecting a luminous point on a screen. If the two tuning-forks are in unison and give exactly the same note, the combination of the two vibrations rendered visible on the screen by the little mirrors that inscribe them in lines of light, produces a perfect circle; that is to say, the simplest geometrical figure; as the amplitude of the vibrations diminishes, the circle flattens, becomes an ellipse, then straight lines. This is the first row of fig. 3 in which the number of vibrations is in the absolutely simple ratio of 1 to 1. If, now, one of the two tuning-forks is exactly an octave from the other, the vibrations are in the ratio of 1 to 2, since every note has for an octave a number of vibrations exactly double, and instead of a circle it is an 8 which is formed and modified as we see in the second row. If we take the combination of two tones of 1 to 3, say *do* with the *sol* of the octave above, we obtain the figures of the third row. If we combine 2 to 3, as *do* and *sol* of the same octave, we produce those of the fourth row. The union of 3 with 4, of *sol* with the *do* above, gives the fifth series.

What is most curious is, that in the complete figures (those of the middle of each series) the number of summits in the vertical direction and in the horizontal direction indicates the ratio of the vibrations of the tuning-forks. Yes, in everything and everywhere numbers rule the world. Many curious experiments among these made by Dr. J. Mount Bleyer, Voice Pictures, and those of Miss Watts Hughes are also evidences of the facts just spoken of.¹

Why, however, seek in scientific analysis testimony to the harmony which nature has shed over all her works? Although it may be necessary for us to rise to the ideal of music to contemplate the beautiful color of the sky or the splendor of the setting sun; we may on a dull winter-day, in the grey and monotonous hours when the snow falls in innumerable flakes, examine with the microscope, some of the flakes and the geometrical beauty of these light crystals (Fig. 4) will fill us with admiration. As Pythagoras said, "God works everywhere by geometry."

The velocity of light has been approximately known for more than two centuries. The honor belongs, however to the modern physicist,

¹*Journal of Eye, Ear and Throat Diseases.* Baltimore. Voice Pictures; or the Wonders of Sound-Force; Their Production and Their Photography. Sept. and Oct., 1900.

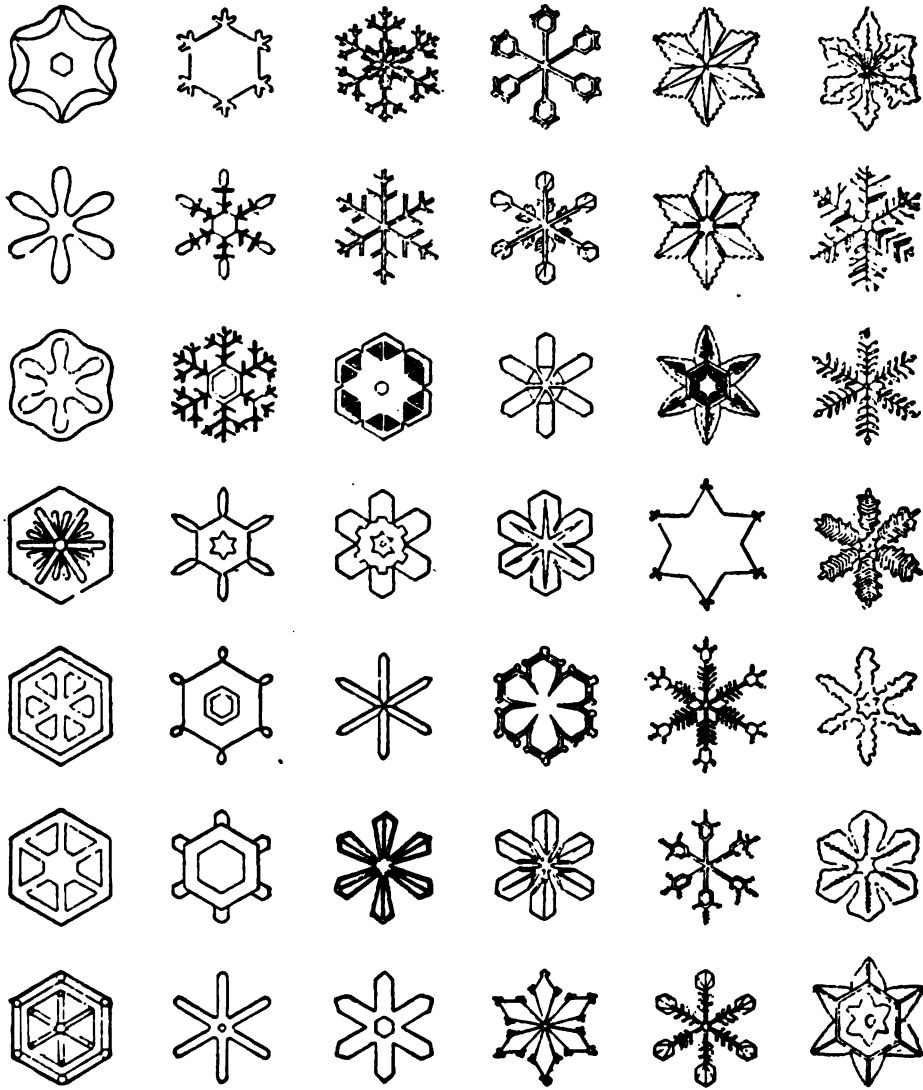


Fig. 4.—*Snow Flakes*—Showing their Geometrical Forms.

Prof. Harkness, who has made the most correct calculation, in 1891, and found it to be 186,337,000 plus or minus 49,723 miles per second.

Thus, when we see an eruption shoot out from the solar limb, eight minutes have elapsed since the event occurred. When we see a satellite of Jupiter lose its light, it is at least thirty-four minutes since the eclipse took place. When we observe Neptune we see it as it was four hours previous. When we look at a star, we see it but, not as it was at the moment the luminous ray left it—that is to say, four years ago with reference to the nearest, and ten years, twenty years, fifty years, one hundred, a thousand, ten thousand years, according to the distance. Likewise, a transcendent eye placed at these successive distances would now see the earth as it was four years, ten years, or more according to the distance. Light makes the past an eternal present. Such is the progressive transmission of light. But how shall we represent the action of the sun in the production of this light?

Let us remark, first, that the radiant star sends us heat at the same time as light, and that, very often the two species of rays are mixed up. Every-day experience shows us also, that heat raised to a certain degree becomes light. On the other hand, we know that heat is nothing else than a mode of motion; *it is the motion of the molecules in rapid vibration which is felt as heat.*¹ *Light is otherwise but a vibration.*

There is no solid matter, properly so called, and this is a fact no less worthy of attention than that of astronomical magnitudes and motions. In the densest mineral, in a piece of iron, of steel, of platinum, the molecules do not touch. Cohesion which is the attraction of the atoms, maintains them; but heat increases their distance from one another, more or less, by animating them with a vibratory motion. If

¹Let us strike a piece of iron. The muscular motion of the arm is transmitted to the molecules of the iron, which are in a state of invisible motion that we call heat. Friction produces heat, and this was the first source of fire among the ancients. Thermodynamics has estimated the mechanical equivalent of heat and we know now that the heat necessary to raise one pound of water 1° in temperature is equivalent to a mechanical force capable of raising 772 lbs. 1 foot in height and conversely.

Heat is a mode of motion. A ball of lead of 1 lb. falling from 772 feet of height arrives with a velocity of 322 feet per second, and, as its calorific capacity is one thirtieth of that of water, its collision with the ground would raise its temperature by 30° if the soil itself were not heated by the fall. Such a ball shot with the velocity five times greater, or 1,110 feet, would attain a degree of heat twenty-five times higher, or 750 degrees, in striking a target which could not be heated. That is to say, that if the Supreme Will were to stop suddenly, this ball, thus shot out into space would melt on the spot and flow like water.

this heat is sufficient the cohesion loses its power, the *solid* state disappears and the molecules glide over one another; this is the liquid state. If the heat is raised higher, that is to say, if the vibratory molecular motion is more violent, the molecules even escape altogether from cohesion and the body becomes vapor or gas. Thus, there is no solid matter, and the heat-motion makes bodies pass through the three states. It is assuredly strange to think that our own body is not more solid than the rest, but formed of molecules which do not touch and are in perpetual motion. Perhaps even the constituent atoms of bodies rotate on themselves and around one another. If you had sufficiently good sight to see exactly the materials which compose your body, you would see it no longer, because your sight would pass through it. And how small are the constituent parts! The red globules which color the human blood have the form of microscopic lenses measuring only the hundred and thirtieth part of a millimetre in diameter. It would be necessary to place 130 of these little bodies end to end to form the length of a millimetre. A drop of blood of a cubic millimetre contains about five millions of globules; a litre of normal blood contains 5,000 millions, and there flow in our arteries and veins twenty-five to thirty thousand millions of these little organic bodies.

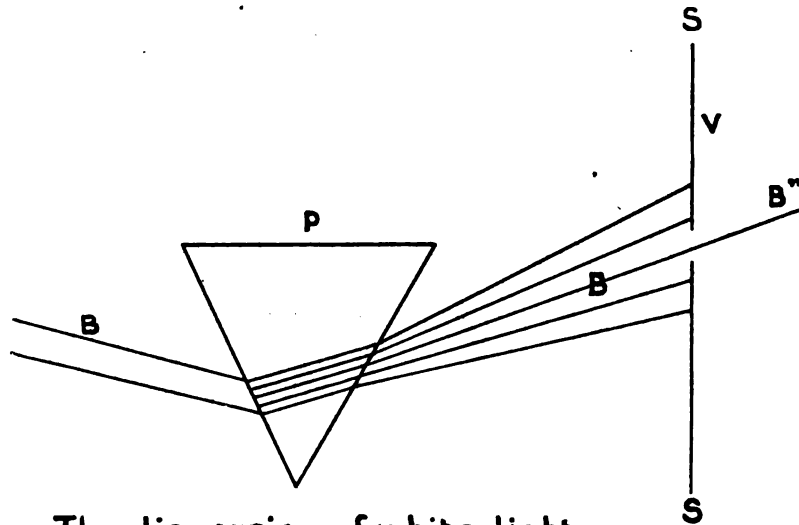
Let them become either reduced or multiplied, and we are dead. Let them coagulate, or become cool or heated, and we are dead! Let them stop, and we are lost! At each throb of the heart, a violent and rapid impulsion projects the blood to the extremities of the members. One hundred thousand times a day, 36 millions of times a year, the same pulsations recommence, until the day when the fatigued muscle stops, and compels us to lull ourselves profoundly in the last sleep.

The constituent molecules of bodies do not touch. It is thus, and thus only, that the expansion and the change of the state of bodies under the influence of heat can be explained. We do not doubt the energy of the atomic forces in action around us. Let us heat one pound of iron from zero to 100 degrees; it will expand about 1-800, a span imperceptible to the eye, and yet the force which has produced this expansion would be capable of lifting 12,000 lbs., and raising them to the height of one yard. The power of gravitation almost vanishes in comparison with these molecular forces; the attraction exercised by the earth on the weight of half a kilogramme (about a pound) taken in a mass, is nothing compared to the mutual attraction of its own molecules. In the combination of 1 lb. of hydrogen with 8 lbs. of oxygen to form water, work is performed capable of raising by 1 degree the temperature of 34,000 lbs. of water, or of lifting 15,000,000 lbs.

to the height of one yard. These nine pounds of water, in being formed, have fallen molecularly down a precipice, equal to that which would be passed over by a ton of 1,000 kilogrammes rolling down to 46,000 feet of depth!

When a bar of iron is heated and becomes sufficiently hot to be luminous, it sets the ether in vibration at the unheard of velocity of 450 billions of undulations per second.

The length of the wave of the extreme red is such that it would require 38,000 placed one after the other to form a length of one inch. As light travels 300,000 kilometers per second, or 30,000,000,000 centimeters, multiplying this number by 15,000 we obtain the num-



**The dispersion of white light
by its passage through a prism.**

Fig. 5.

Fig. 5 shows how a beam of parallel rays of white light, such as sun or electric light, etc., B, is changed into a fanlike beam, B', by a prism. This fanlike beam falling upon a screen, S S, produces an illuminated band R V, called *spectrum*, which is red at the end R and passes by insensible gradation through orange, yellow, green and blue to violet at the end, V. The beam of light, B, is said to be *dispersed* by the prism. The fanlike beam, B', produces white illumination when concentrated by a covering lens upon a small portion of a screen.

ber given above; all these waves, 450,000,000,000,000, enter the eye in one second!¹

Let us receive a ray of light on a lens in order to produce a very pure pencil, then on a prism (a triangular piece of glass); in passing through the prism, this luminous ray is refracted, and in passing out, instead of forming a white point, it forms a ribbon, colored with the tints of the rainbow. In making this experiment, Newton proved that the white light gave birth to all these colors. These are arranged in the following well known order:—Violet, indigo, blue, green, yellow, orange, red.

The colors are separated, each according to its character; the

WHITE LIGHT

A	B	C	D	E	F	G	H
RED		YEL.	GREEN	BLUE		VIOLET	

Solar Spectrum.

Fig. 6.

most intense, the red, does not allow itself to be turned aside from its path, and passes in a straight line; the orange submits a little to the influence of the prism, and is placed to one side; the yellow submits still more, the green, then the blue, are still milder and weaker, and continue the ribbon. It is this colored streamer which bears the name of the *solar spectrum* (Fig. 6). In reality there are not *seven* colors; there is an unlimited number. In the time of Newton the number VII was still secret.

The length of the spectrum only represents the light that is to say, the solar rays—perceptible by our retina. Our eye begins to see, when the ethereal vibrations reach the number of 450 billions, and stops seeing when they exceed 700 billions (purple-violet); but beyond these limits nature still acts—unknown to us. Certain chemical sub-

¹What comes from the sun and from all sources of light and heat is not then, to speak accurately, either light or heat (for these are merely impressions), but *motion*, motion, extremely rapid. It is not heat which is scattered through space, for the temperature of space is, and remains everywhere, glacial. It is not light, for space has constantly the darkness seen at midnight. It is motion, a rapid vibration of the ether which is transmitted to infinity, and does not produce a perceptible effect until it meets with an obstacle which transforms it

stances as those used in the screens for X rays, etc.—the photographic plate is another example—see further than we do, beyond the violet; these are *invisible rays* for our eyes and numerous other examples could be cited for illustrative purposes.

Our ear perceives aerial vibrations from 32 vibrations per second (low tones) up to 36,000 (high tones); beyond this we hear nothing. Thus our senses are limited, but not the facts of nature. The colors are like the notes of the gamut, effects of number; in painting as in music there are *tones*.

It is the molecular arrangement of reflecting or transparent sub-

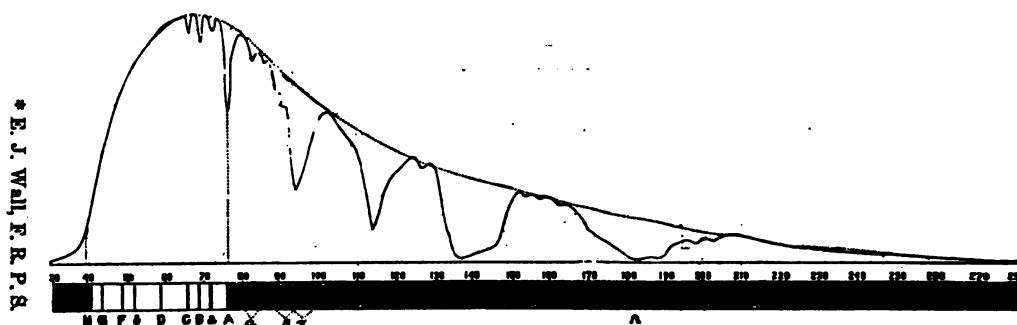


FIG. 2.—Langley's normal bolometric spectrum, showing curves of galvanometer deflections (from the *Photogram*).



FIG. 3.—Langley's latest spectrum. The white portion on the left is the visible spectrum, the shaded portion on the right representing the invisible or infra-red (from the *Photogram*).

Fig. 7.

Fig. 7, a photographic plate reveals the existence of invisible rays beyond V, the ultra-violet rays, especially in sunlight; and a thermopile or bolometer shows the existence of rays inside of or below R, the *infra-red* rays. The portion of the spectrum between R and V is called the *visible spectrum*.

stances, which gives rise to the different reflections of light, that is to say, the colors. A slight difference produces here a blue eye, pensive and thoughtful; there a brown eye, with half-hidden flames; there a look, dull and distasteful. The dazzling rose which blooms in the flower-garden, receives the same light as the lily, the buttercup, the cornflower or the violet; molecular reflection produces all the differ-

ence; and we might even say, without metaphor, that objects are of all colors except of those which they appear. Why is the meadow green? Because it keeps all except the green, which it does not want and sends back. White is formed by the reflective nature of an object which keeps nothing and returns all; black, by a surface which keeps all and sends back nothing. Project the solar spectrum on black velvet; it is absolutely extinct; place a band of red velvet in the blue part of the spectrum; it becomes black, because, it is not able to send back anything but red, etc.¹

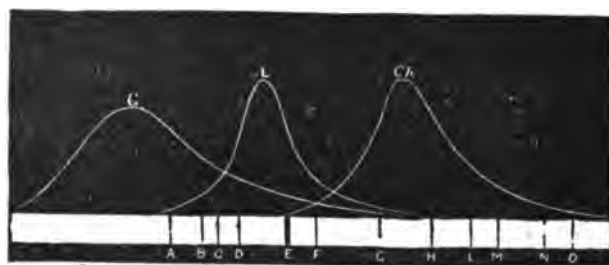


FIG. 8.—RELATIVE INTENSITIES OF HEAT, OF LIGHT, AND OF CHEMICAL ACTION IN THE RAYS WHICH REACH US FROM THE SUN

The calorific rays are not visible to us. If we move the bulb of a thermometer along the solar spectrum, we find that the heat begins at the indigo, and gradually rises to acquire its maximum intensity near the end of the visible spectrum, beyond the red. The most luminous part of the spectrum, the yellow, is not the hottest. On the other hand, we ascertain chemically, through the labors of Ritter and Scheele, especially by photography, that the chemical rays begin in the green, acquire their maximum in the violet and extend beyond it, forming also an invisible spectrum. Figure 8 represents the relation

¹With reference to this, I have noticed a rather singular fact during some experiments. A white ray which traverses a plate of blue glass is projected in blue; projecting [these two colors on each other, on a screen, we obtain a pure *white*; because these two colors are complimentary. But, if we place the *same* plates of yellow and blue glass to a single apparatus we obtain green.

¹*New York Medical Record*, Oct. 13, 1900.

which exists among the three species of rays. The luminous rays extend from the red to the violet (from the left of the line *A* to the right of the line *H*), and their luminous intensity is represented by the curve *L*, of which the maximum occurs, as we see, between the rays *D* and *E*. The curve to the left, *G*, represents the calorific intensity; and the right curve, *Ch.*, corresponds to the chemical action. A sixth sense is opened to the world by the calorific rays, a seventh by the chemical rays. (Figure 9).

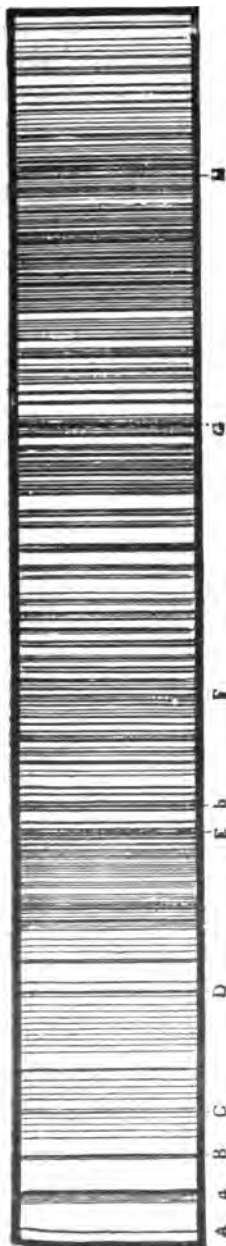


Fig. 9

The accompanying figure, (Figure 8 1-2) exhibits the chemical action affected by the various portions of the spectrum on the sensitive mixture for one particular zenith distance of the sun. The lines worked with the letters of the alphabet from *A* to *W* at the bottom of the figure, represent the fixed dark lines which exist in the solar spectrum, of which I shall speak as I go along in this article. They serve as landmarks by which to ascertain the position of any given point in the spectrum. The greatest amount of chemical action is noticed between the line in the indigo, marked *G*, and that in the violet, marked *H*. In the direction of the red end of the spectrum, the action becomes imperceptible about *D* in the orange—the maximum of visible illumination—whilst towards the other end of the spectrum the action was found to extend as far as the line marked *U*, or to a greater distance beyond the line *H* in the violet than the total length of the ordinary visible spectrum.

By way of a conclusive illustration, this same fact may be shown that a photograph can be made with these blue rays, whereas there is failure to produce the same effect with the red rays.

I want to point out another important fact right here before I go on further into my subject, viz. that the solar spectrum differs in certain

respects from that beautiful spectrum of the electric arc light with which much is now being done in photo-therapeutics, etc. It differs in this way, that the solar spectrum consists, not of a continuous band passing without a break or interruption from the red to the violet, through all the shades of color which we know as the rainbow tints, but that in the solar spectrum we find, interspersed between these, cer-

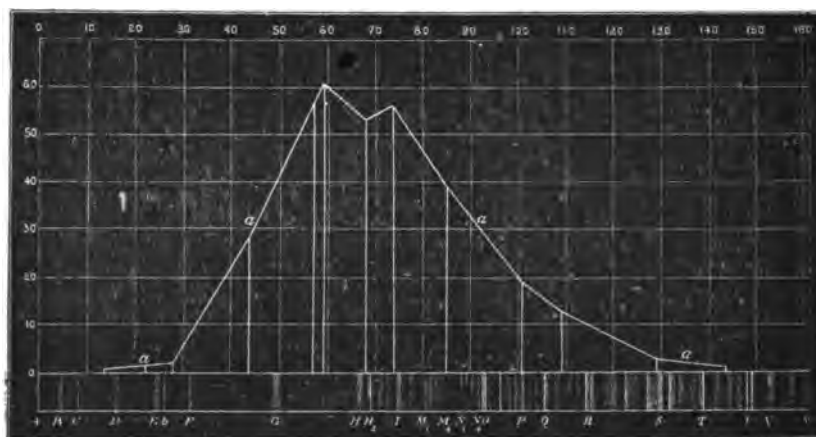


Fig. 8 ½

tain dark lines which we may regard as shadows in the sunlight—spaces where certain rays are absent.

What we see is nothing compared with what is constantly passing around us in nature.

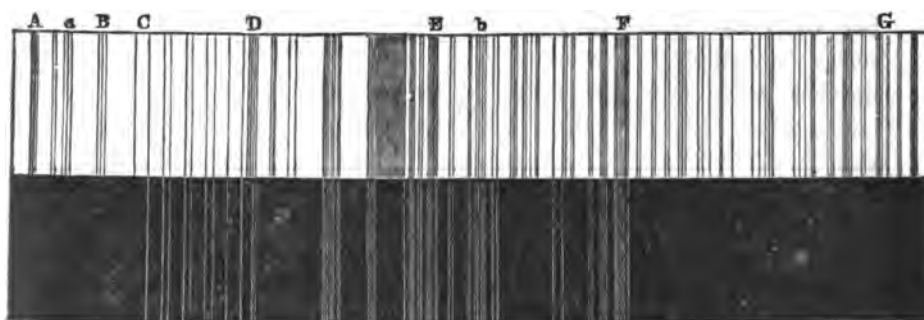


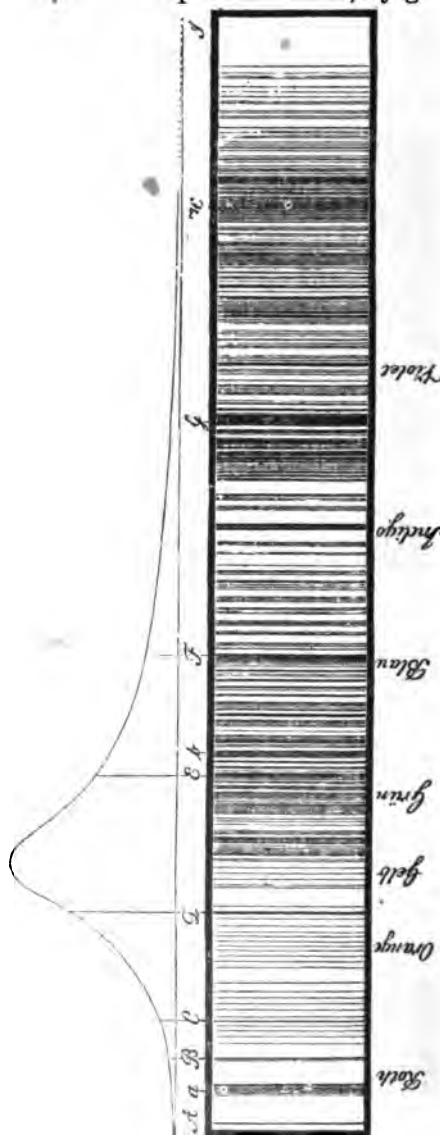
Fig. 9 ½

As early as 1815 Fraunhofer, a Bavarian optician, studied with care the violet spectrum and sought to discover some fixed points in it

which might be independent of the nature of the prisms, and which could be regarded as points of reference to which the zones and colors of the spectrum might be referred; when he perceived that, by giving the prism a certain special position, there suddenly appeared in the spectral image *dark lines* crossing the streamer transversely in the same colors, he designated the eight principal lines by the first letters of the alphabet. They are placed as follows:—The first at the limit of the red, the second in the middle of that color, the third near the orange, the fourth at the end of that tint, the fifth in the green, the sixth in the blue, the seventh in the indigo, the eighth at the end of the violet.

These are, then, the principal black lines which we distinguish in the spectrum. As to the total number of these lines, it is really amazing. Fraunhofer counted 600 with a microscope; later Brewster carried this number to 2,000; now we count 5,000 and more. (See figure 9 1-2.)¹

These lines of the solar spectrum are constant and invariable at all times when the spectrum studied is that of light emanating from the sun; whatever



Vu Fraunhofer's *Abh. Denkschr.* 1814-15.

Fig. 10. The original Fraunhofer's spectrum.

¹These lines are universally known by the letters given in figures, 9 and 9½.

this light may be, we find them in daylight, in that form in the clouds, in the light reflected by mountains, buildings, and all terrestrial objects. We find them even in the light of the moon and in that of the planets, because these celestial bodies shine only by the light which they receive from the sun and reflect into space.

This discovery of microscopical lines which thus cross the solar spectrum was soon made fruitful by another not less important discovery. Admitting through a prism rays issuing from a luminous terrestrial source, such as an electric arc light, as a gas jet, a lamp, a metal in fusion, etc., we notice at first that these artificial lights give rise to a spectrum as well as that of the sun, but that this spectrum differs from

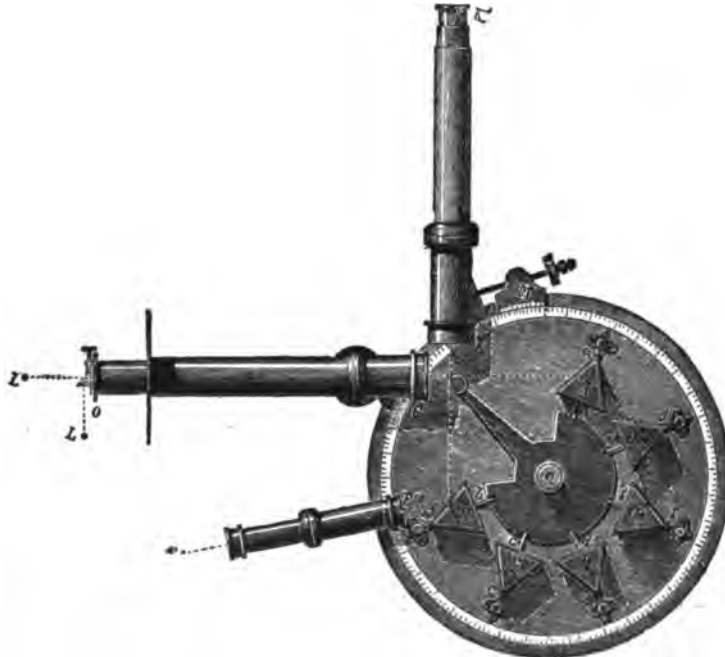


Fig. 11

the solar spectrum by the number and arrangement of the colors; we remark in the second place—and here is the important point—that the spectrum of these lights is also crossed by lines, that the distribution of these lines differs according to the nature of the light observed, and in short, that they present an *invariable order, characteristic* of each of them.

In order to fix our ideas, let me describe an experiment such as was made by Kirchhoff and Bunsen, the two physicists to whom we owe

these brilliant researches. Let us place in a gas jet, a platinum wire, at the extremity of which we put a small fragment of the substance which we wish to analyse. Before the flame is placed the spectroscop, a telescope expressly constructed for our analysis, and in which the rays from the flame pass through a prism and an analysis microscope. [The flame of our light from whatever source, is regulated and weakened so as not to give a spectrum itself.] The moment we place in the flame the prepared platinum wire a spectrum appears in the telescope and the eye placed at the microscope can analyze it at its ease. This spectrum is *that of the substance which burns*. The luminous ray leaving the point *L* (Fig. 11) is reflected from the little prism *O* at the end of the telescope, and thus appears to come from *L*. Following the axis of the telescope it is refracted successively through six prisms, *A, B, G, D, E, H*, and enters the telescope, *K*, by which it is observed. In order to compare or measure it, we should have in the little telescope, *F*, an image or a scale which serves to fix the position of the rays.

For example, we dip the platinum wire into a bottle of potash. The moment we place it in the gas jet, a spectrum appears in the spectroscop; this is the spectrum of potassium. It is composed of seven colors—like the solar spectrum; in addition, it is characterized by two very brilliant red rays, situated towards each of the extremities.

Similarly, if we place small crystals of soda at the point of the platinum wire, we see a singular spectrum appear, which contains neither red, nor orange, nor green, nor blue, nor violet, and which is simply characterized by a splendid yellow ray corresponding to the position of the yellow in the solar spectrum and of the line which crosses that color. We have here the spectrum of sodium, and so on.

This method of analysis is so marvelously powerful that it reveals the existence of substances in quantities infinitely small, and, where any other method would be completely abortive, the presence of *a millionth of a milligramme* of sodium discloses itself in the flame of a candle.

Thus every substance analyzed produces in the spectroscop an arrangement of lines which is peculiar to it—it *registers its true natural name in hieroglyphic characters*; it reveals itself by itself and in an incontestible form.

The black lines which are described above in the solar spectrum, correspond precisely to certain bright lines characteristic of the spectrum of different terrestrial substances.

On the other hand, it has been ascertained that metallic vapors endowed with the property of emitting in abundance certain colored rays absorb these same rays when they come from a luminous source situated behind these vapors and traversed by them. Thus, for example, if behind a flame in which sea salt burns we kindle a brilliant Drummond light, and if we superpose the two spectra, immediately the yellow line of sodium will disappear from the spectrum of sodium and give place to a dark line occupying precisely the same place.

It follows from this double observation that the black lines of the solar spectrum prove:—

I., The existence of a burning and gaseous atmosphere around that body.

II., The presence in that atmosphere of substances announced by the lines in question.

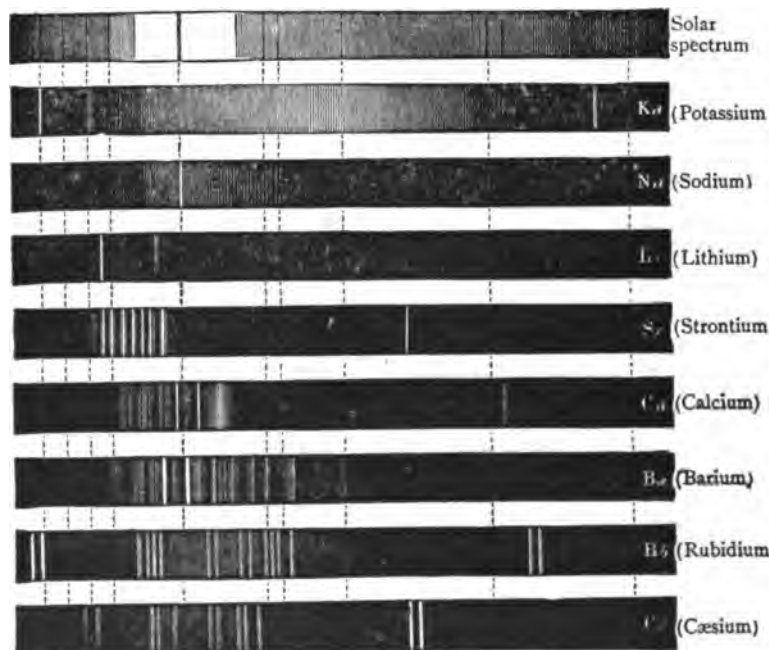


Fig. 12

There have been identified, line for line, in the sun, the 460 lines of the spectrum of iron¹, the 118 of titanium, 175 of calcium, 57 of magnesium, 33 of nickel, etc. So that we now know certainly that

¹Prof. Roland has found over 2,000 lines of iron in the solar spectrum.
J. E. G.

there are at the surface of that dazzling star, and in the gaseous state, iron, titanium, calcium, manganese, nickel, cobalt, chromium, sodium, barium, magnesium, copper, potassium; but we still cannot recognize any trace of gold, silver, antimony, arsenic or mercury. Hydrogen was discovered in 1868; oxygen must exist in this furnace, but the oxygen lines which have been found in the solar spectrum proceed from our own atmosphere (Jansen 1888). Amongst all the discoveries of modern investigation none has deservedly attracted more attention or called forth more general admiration than the result of the application of spectrum analysis to chemistry. Nor is this to be wondered at when we remember that such a power has thus been placed in the hands of the chemist and allied scientists, enabling them to detect the presence of chemical substances with a degree of delicacy and accuracy hitherto unheard of, and thus to obtain a far more intimate knowledge of the composition of terrestrial matter than they formerly enjoyed. Since its discovery the sciences in their various branches of analysis have profited much by it, in new discoveries.

HOW THE INFLUENCE OF THE SUN'S RAYS ACTS UPON THE VITAL ORGANIZATION.

The surface of our earth is rendered beautiful by the almost countless forms of vegetable life which adorn it, and on the bare surface of the wind-beaten rock the mysterious lichen finds a sufficient amount of those elements which assimilate and form its structure, to support it through all the stages of its growth; and at length, having lived its season, it perishes, and in its decay forms a soil for plants which stand a little higher in the scale of vegetable life. These again have their periods of growth, of maturity and of dissolution, and, by their disintegration, form a soil for others which pass through the same changes until at length the once naked rock is covered with a garden and the flowering shrub and the enduring tree wave in loveliness above it.

In a short time, we find the almost microscopic seed placed in a few grains of earth, springing into life, developing its branches, unfolding its leaves and producing flowers and fruit. Although it has become a stately plant, we shall not discover much diminution of the soil from which it grew, and from which it would at first appear it derived all those solid matters of which its structure is composed. Experiments have been made in the most satisfactory manner, and it has been proved that a very small amount only, of the soluble constituents of a soil are taken up by the roots of a plant. We have then to look to other sources for the origin of the woody matter, of the acid and saccharin

juices, of the gums and of the resins, yielded by the vegetable world. These are all, it will be found, formed by some mysterious modifications of a few elementary bodies. The plant in virtue of its vitality and under the excitement of the sun's rays, effects the assimilation of these elements; and these are the phenomena which it is our business to examine thoroughly if we are going to apply photo-therapeutics.

The conditions necessary to germination are moisture, a moderate temperature and the presence of oxygen gas. The experiments of Ray, Boyle, Scheele, Archard, and Humboldt all show that the presence of atmospheric air is necessary. Germination cannot take place at the freezing point of water, and at 212° all vitality is destroyed. If seeds are kept quite dry, they will not germinate, although the other conditions are fulfilled. All seeds do not germinate at the same seasons, some requiring a more elevated temperature than others which fact explains the cause of the different periods at which we find the plants springing from the soil.

It has been remarked, that Michelloti proved light to be injurious to germination, and Gugenhaus and Sennebier found that seeds germinate more rapidly even beneath the soil in the shade than in sunshine. This fact has been now established beyond all doubt.

Priestly's experiments¹ on the influence of growing plants upon the air are most instructive; and since they are not generally known, it is thought advisable to give an abstract of them in this space. "Without light," says Priestly, "it is well known that no plant can thrive and if it do grow at all in the dark, it is always white, and is, in all other respects, in a weak and sickly state. Healthy plants are probably in a state similar to sleep in the absence of *light*, and do not resume their proper functions but by the influence of light and especially the action of the rays of the sun."

Again, arguing that the green matter which forms in water grows and gives off gas, by the influence of light alone, Priestly gives the following experiment:—"Having a large trough of water, full of recent green matters giving air very copiously, so that all the surface of it was covered with froth, and jars filled with it, and inverted collected great quantities of it; and very fast. I filled a jar with it, and inverting in a basin the same; I placed it in a dark room. From that instant, no more air was yielded by it, and in a few days it had a very offensive

¹*Experiments and Observations Relating to Various Branches of Natural Philosophy with a Continuation of the Observation on Air.* By Joseph Priestley, LL. D., F. R. S., Birmingham, 1781, Vol. ii.

smell, the green vegetable matter with which it abounded being then all dead and putrid." Dr. Priestly then instituted a series of experiments to prove that the *green matter* and not the water, produces the air. Rumford imagined that any porous body, as cotton, wool, silk, and even threads of glass would separate air from the water. Priestly's experiments were singularly conclusive on this point.

Priestly continued his experiments with the higher order of plants:—"Having by this means fully satisfied myself that the pure air I had procured was not from the water, but from the green vegetating substance assisted by light, I concluded that then aquatic plants must have the same effect; and going to a piece of stagnant water, the bottom of which was covered with such plants, I took five or six different kinds promiscuously. Then, having put them into separate jars of the water in which they were growing and inverted them in basins of the same, I placed them in the sun, and *I found that all of them without exception* were immediately covered with bubbles of air, which gradually detaching themselves from the leaves and stalks where they had originated, rose to the surface of the water; and this air, on being examined, appeared to be in all the cases very pure, though not quite so pure as that which was before procured from the green water."

It must be remembered that carbonic acid was unknown to Priestly and those who labored in the same field with him. Dr. Ingenhousz¹, for example, says:—"The air obtained from the leaves is by no means air from the water, but air continuing to be produced by a *special operation carried on in a living leaf* exposed to the daylight, and forming bubbles, because the surrounding water prevents this air from being diffused through the atmosphere. * * * * *

"It is wonderful that this green matter seems never to be exhausted of yielding dephlogisticated air, though it has no free communication with the common atmosphere, from which the most part of other plants seem to derive their stock of air. Does this vegetable matter imbibe this air from the water, and change it into dephlogisticated air?" This does not seem to me probable. I should rather incline to believe that the wonderful power of nature, of changing one substance into another, and of promoting perpetually the transmutation of substances, which we may observe everywhere, is carried on in this green vegetable matter, in a more ample and conspicuous way.

Dr. Priestly, with his usual ingenuity, very soon determined that the plants separated some gas from the water, which they decomposed,

¹Jugenhouz, *Experiments on Vegetables*.

and that, after a time, they ceased to give out air in water. He says:—"I put a handful of these water plants, without distinguishing their kinds, into a receiver containing eighty ounce measures of water, inverted in a basin of the same; and when they had yielded between six and seven ounce measures of air, I examined it, and found that, with two equal quantities of nitrous air, the measures of the rest were 0.8. *But the air had been diminishing about three days*, so that I believe there had been eight ounces measured in all, or one-tenth the capacity of the jar, and certainly purer than it was now found to be.

"It was evident, therefore, that *no more air would have been produced by these plants in water*, though placed in the sun. * * * * It is also a proof that the proper origin of all air produced in these circumstances is not the plant and the light, and that these are only agents to produce that effect on something else; that in all cases, the quantity of air produced bears a certain general proportion to the capacity of the vessel in which the process is made." Again, "I have found a slower and a less produce of air from rain water than from pump water; owing, I suppose, to the rain water containing less air to operate upon, and generally also in a purer state, than that which is contained in pump water." We now know that the latter contains more carbonic acid than the former.

These experiments were continued by Priestly with cabbage leaves, lettuce, the sponge, cucumber, potatoes, white lilies, and many other kinds of plants, in all of them proving the decomposition of fixed air (carbonic acid) by the living vegetable matter in the water and the influence of light. We find philosophers, both here and abroad, repeating Dr. Priestly's experiments, and gradually arriving at a correct interpretation of the observed phenomena. Cavendish, in his experiments on air, wanders round the truth, but is continually drawn away from it by the hypothesis of phlogiston. Sennebier found that plants yielded more dephlogisticated air (oxygen) in distilled water, impregnated with fixed air, than in plain distilled water. On this, Cavendish says:—"For a fixed air is a principle constituent part of vegetable substances, it is reasonable to suppose that the wood of vegetation will grow better in water containing this substance than in other water."

M. Monge, in his memoir, *Sur le Resultat de l'Inflammation du Gaz Inflammable et de l'air Dephlogistique dans des Vaisseaux Clos*, also examines this question. About this time the complete explanation afforded by Lavoisier's annihilation of the phlogistic hypothesis led to

correct explanations of the facts; and we advance more steadily in our inquiries.

Robert Hunt published in the *Philosophic Magazine* for April, 1840, some very curious experiments which I, myself, followed out to my own satisfaction. It is necessary for a correct understanding of the results obtained, that all the conditions under which the experiments have been made should be distinctly stated.

Six boxes were so prepared that air was freely admitted to the plants within them, without permitting the passage of any of the solar rays, except those which passed through the colored media with which they were covered. These media permitted the permeation of the rays of light in the following order:

1. *A ruby glass, colored with oxide of gold*:—This glass permits the permeation of the ordinary red, and the extreme red rays only.

2. *A brown-red glass*:—The extreme red ray appeared shortened; the ordinary red ray and the orange ray passed freely, above which the spectrum was sharply cut off.

3. *Orange glass*:—The spectrum was shortened by the cutting off of the violet, indigo, and a considerable portion of the blue rays. The green ray was nearly absorbed in the yellow which was considerably elongated. The whole of the least refrangible portion of the spectrum permeated this glass fully.

4. *Yellow glass, somewhat opalescent*:—This glass shortened the spectrum by cutting off the extreme red ray and the whole of the most refrangible rays beyond the blue ray.

5. *Cobalt blue glass*:—The spectrum obtained under this glass was perfect from the extreme limits of the most refrangible rays down to the yellow, which was wanting. The green ray was diminished, forming merely a well defined line between the blue and the yellow rays. The orange and red rays were partially interrupted.

6. *Deep green glass*:—The spectrum is cut off below the orange and above the blue rays. Although the space on which the most luminous portion of the spectrum falls, appeared as large as when it was not subjected to the absorptive influence of the glass, there was a great deficiency of light, and on a close examination with a powerful lens, a dark line was seen to occupy the space usually marked by the green ray.

Robert Hunt's experiments show also by preparing a case containing five flat vessels filled with different colored fluids, the following:—

*A—red: Sodium of carmine in super sulphate of ammonia:—*This gives a spectrum in nearly all respects similar to that given by the ruby glass (1), all the rays above the line drawn through the center of the space occupied by the orange being cut off.

*B—yellow: A saturated solution of bichromate of potash:—*This beautifully transparent solution admits the permeation of the red and yellow rays which are extended over the space occupied by the orange ray in the unabsorbed spectrum. The green rays are scarcely evident.

*C—green: Muriate of iron and copper:—*This medium is remarkably transparent; the blue, green, yellow, and orange rays pass freely, all the others being absorbed.

*D—blue: Cupro-sulphate of ammonia:—*This fluid obliterates all the rays below the green ray, those above it permeating it freely.

*E—white:—*This is merely water rendered acid by nitric acid, for the purpose of securing its continued transparency. It should be noted that spaces in the boxes have been left open to the full influence of the light in order that a fair comparison might be made between those plants growing under ordinary circumstances, and the others under the dissevered rays.

It will be seen from the above that the following combinations of rays have been obtained to operate with:

- 1 and A. The calorific rays well insulated.
2. A smaller portion of these rays mixed with a small amount of those having peculiar illuminating powers.
3. The central portion of the solar spectrum well defined, and all the rays of least refrangibility, thus combining the luminous and calorific rays.
4. The luminous rays mixed with a small portion of those having a calorific influence.
5. The most refrangible rays with a considerable portion of the least so; thus combining the two extremes of chemical action, and affording a good example of the influence of the calorific blended with the chemical spectrum.
6. Some portion of those rays having much illuminating power, with those in which the chemical influence is the weakest under ordinary circumstances.

B. The luminous rays in a tolerably unmixed state.

C. The luminous rays combined with the least actively chemical ones, as in 6, but in this case the luminous rays exert their whole influence.

D. The most refrangible or chemical rays well insulated.

E. White light.

From these arrangements it will be evident that, although we do not secure the complete isolation of the rays, as we should do with a prism, we obtain the great preponderance of one influence over others, which suffices to insure, to a certain extent, the decided action of that one.

I am well aware that we only arrive at approximation to the truth by the system adopted, but am unacquainted with any method by which these experiments could be continued for any time otherwise than with absorptive media.

When we look on a spectrum which has been subjected to the influence of some absorptive medium we must not conclude, from the colored rays which we see, that we have cut off all other influences than those which are supposed to belong to those particular colors.

Although a blue glass or fluid may appear to absorb all the rays except the most refrangible ones, which have usually been considered as the least calorific of the solar rays; yet it is certain that some principle has permeated the glass or fluid, which has a very decided thermic influence, and so with regard to media of other colors.

The relative temperatures indicated by good thermometers placed behind the glasses and fluid cells, which were used, will place this in a clear light. The following results present a fair average series, and distinctly mark the relative degrees in which these media are permeable by the heating rays:—

GLASSES.

<i>Color</i>	<i>Luminous rays not absorbed.</i>	<i>Temperature.</i>
1. <i>Ruby.</i>	Ordinary red and the extreme red.....	87 Degrees
2. <i>Red.</i>	Ordinary red and orange portion of extreme red.....	83 "
3. <i>Orange.</i>	Little blue, green, yellow, orange, red and extreme red..	104 "
4. <i>Yellow.</i>	Red, orange, green and blue.....	88 "
5. <i>Blue.</i>	Violet, indigo, blue, little green and some red.....	84 "
6. <i>Green.</i>	Orange, yellow, green and blue.....	74 "

FLUIDS.

A— <i>red.</i>	Ordinary and extreme red.....	78 Degrees
B— <i>yellow.</i>	Ordinary red and yellow.....	80 "
C— <i>green.</i>	Blue, green, yellow, orange.....	69 "
D— <i>blue.</i>	Green, blue, indigo, violet and trace of red.....	73 "
E— <i>white.</i>	All the rays.....	89 "

In these examinations the highest temperature was not obtained behind the red media, but behind those which have a yellow or orange tint.

Such were the arrangements adopted; these were sometimes slightly varied, but not to an important extent.

THE FACTS THAT ARE KNOWN FROM RESEARCHES ON THE INFLUENCE OF THE
SOLAR RAYS ON THE GROWTH OF PLANTS.

Although there are still many important points which remain open for investigation and others which although examined, require, from the complexity of their phenomena, still more minute research. Nevertheless many important facts connected with the process of germination, and vegetable growth as affected by solar light, are known which warrant further research into that domain and into that of animal life.

There has arisen a habit of referring all the effects observed in the process of vegetation, etc., to the agency of light, whereas, it appears that some agencies which are not luminous materially influence the phenomena of vegetable vitality.

Without entering into any discussion in this place on the probable existence or otherwise of a principle distinct from light and heat in the sun's rays, to which we refer the curious chemical changes produced by solar influence, it will be sufficient to admit the existence of three distinct classes of phenomena which cannot, I think, be disputed.

These are luminous influence—*light*; calorific power—*heat*; and chemical excitation—*actinism*.

The problem which these researches were directed to solve was the proportion and kind of influence exerted by light, heat, and actinism—as the principle supposed to be active in producing the chemical phenomena of the solar rays has been called—in the various stages of vegetable growth.

The means we have of separating these phenomena from each other are not very perfect; indeed, in the present state of our knowledge, it is impossible to have evidence of the operations of either light, heat or actinism, absolutely separate from each other. If we use the prismatic spectrum, we have over every portion of it a mixture of effects. Even in the mean yellow, or most luminous rays, we have a considerable amount of thermic action, and, under some circumstances, evidence of chemical power. In the violet rays which have been particularly distinguished as chemical rays, we have light and heat, and in the calorific rays we have decided proof of both luminous and actinic power. Experiments show with the prismatic spectrum, that we have, in fact, no certainty, that the results due to a particular ray—that ray being regarded as the representative of a particular phenomenon—are

not the combined effect of the three forces. The same objections apply to absorbent media, but the amount of each influence is readily determined; and we are therefore enabled to refer any particular result to a tolerably well defined agency.

Before the British Association these facts were made very clear by a large number of exceedingly interesting crucial experiments, and all were embodied in a report thereon. They showed that under the action of those radiations which have permeated variously colored media, such as tinted glass and colored, transparent fluids, it was not sufficient to state that a yellow, red, or blue glass or fluid was employed, as it by no means followed that these media are permeated only by the rays corresponding in color, or by the influences due to a given order of refrangibility.

The difficulties which oppose themselves to experiments made with colored media have been strongly felt by other observers.

Dr. Dauberry says in his memoir, "On the Action of Light Upon Plants, etc.:"¹—"The difficulty, however, of comparing the relative intensity of the light transmitted by the variously colored media, which were employed in my experiments, induces me to content myself with showing that the effect of light upon plants corresponds with its illuminating rather than with its chemical or calorific influence; and to waive the more difficult inquiry, whether its operation upon the vegetable kingdom exactly keeps pace with the increase of its own intensity."

In 1842 and 1844 Robert Hunt again reported before the British Association the following which are the facts:—He stated the kind of examination to which he then subjected each colored screen—"Many effects which have from time to time presented themselves, have convinced me of the necessity of a still more close examination of the order in which radiant principles permeate the media employed. I have, therefore, in every case examined with all care the illuminating, calorific, and chemical effects of the solar rays which have passed the media employed. The amount of light has been determined by measuring off, in parts of an inch, the prismatic rays which pass the screen. This is preferable to any system of measuring which depends upon the power of the eye to appreciate either light or shadow. Having formed a well defined spectrum on a white tablet, and carefully worked off the center of the yellow ray as being the point of maximum light, and the limits of each of the other rays, the transparent colored medium was interposed and the amount of absorption observed. These examinations,

¹*Philosophical Transactions*, Vol. CXXVII., 1836.

many times repeated, were made with reference to the luminous rays only; and, in the description of my experiments, I shall, considering the unabsorbed ray as being represented by 100, express the amount of light actually effective by such a number as may give the sum of the rays measured off after permeation."

The calorific influences which escape absorption, and which have been determined by the expansion of the mercury in a thermometer with a blackened bulb, placed behind the colored glass or fluid, and by the evaporation of ether from a sheet of blackened paper, as recommended by Sir John Herschel, will be expressed numerically in the same way as light, without reference to the color of any ray. I am far from considering the thermic influences of the solar rays, as quite independent of the color of the ray with which they may be associated; but in these experiments on plants, it appears to me, we can only deal satisfactorily with the total amount of radiant heat which is active under the conditions of the experiments, the terrestrial heat being in all comparative experiments the same."

It has, indeed, been shown by Dr. James Stark¹ by direct experiments, and indirectly by other observers, that color exerts a very powerful influence in the conduction, radiation and permeation of heat. Following up some of these experiments both from a scientific and therapeutic point of view myself, I found that tuberculous patients derive the best results by either wearing white garments over the entire body or in a perfectly nude state. This mode of treatment I have followed since 1890 and never since then has this method depreciated in my judgment, even one per cent.

The determination of the chemical principle of the solar rays, or actinism, permeating the media employed, required more exact attention than the other phenomena.

The experience of many years enables me now to state that we are not acquainted with any transparent medium which is absolutely opaque to actinism. Although nitrate of silver, or indeed any of the salts of silver remain unchanged behind yellow glasses and fluids, yet, chlorophyll is deoxidized and turned yellow by the chemical principle which is enabled to permeate them. Upon all those bodies on which light exerts a direct and determinate influence, as upon the organized compounds, we find that the changes due to actinic power are but slightly interfered with, whereas upon all those inorganic bodies which undergo a change when exposed to the solar chemical radiations—that

¹*Philosophical Transactions*, Vol. CXXIV, 1833.

change being entirely due to actinism—light acts as a powerful interfering agent. The conditions under which these antagonistic forces—light and actinism—operate upon each other are unknown to us, but it is certain that every combination of an inorganic salt with an organic body presents a different scale of action.

Nitrate of silver uncombined with organic matter undergoes no change by the influence of any portion of the solar spectrum, or of white light; spread it on a paper, or combine it with gum or gelatin and all that portion of the spectrum above the green ray blackens it; and if we combine this salt with unstable organic compounds, the blackening is found to take place, eventually, under every spectral ray. The other salts of silver and metallic salts in general are affected in precisely the same manner. From a knowledge of these facts it became evident that some means must be devised for ascertaining, as correctly as possible, the entire quantity of this chemical principle, passing every particular medium, without which knowledge any result would be almost valueless. In every instance, therefore, the influence of the modified radiations was determined: firstly, upon the most sensitive silver salts; secondly, upon organic bodies, as the colored juices of leaves and flowers, and on chlorophyl; and thirdly, upon combinations of the organic and inorganic materials. In this way I have reached a degree of correctness which has not been hitherto attained, and the results of the experiments have consequently a higher value.

It has been repeatedly stated that seeds would not germinate under the influence of light, deprived of that principle on which chemical change depends. There is some difference of opinion raised on that point by several, and those numerous experiments made by Gardner with the prismatic rays themselves have unfortunately furnished us with no knowledge of a degree of stability which he was enabled to ensure for the prismatic rays with his heliostat. Dr. Gardner's researches corroborating those of Dr. Draper are without doubt valuable; but for the reason which already is stated in this article, I must contend that we do not secure a separate action of light and actinism by the prism so effectually as by the use of absorbent media. It has been shown by Mr. Hunt, after many years of practical and convincing observation, "that light is injurious to germination and that Dr. Gardner's experiments must have been deceptive." Mr. R. Harkness¹ in reply to Dr. Gardner on this point says:—"We know, both from observations of Gugenhaus and Sennebier, as well as from daily experience,

¹*Phil. Magazine*, Vol. XXV, N. S., p. 340, 1844.

that the absence of solar light is one of the conditions almost necessary for the germination of seed, and consequently we should not expect that ray in which the maximum of light is found to facilitate germination, but on the contrary, as in Mr. Hunt's experiments to retard it." There are other objections made from a physio-chemical point of view. Many experiments toward clearing up this point were made by Mr. Hunt, which gave satisfactory evidence that light deprived of the principle or power of chemical action arrests the development of the plant by preventing the vitality of the germ from manifesting itself.

Although the visible sign of germination is the process of chemical combination of the carbon with oxygen and hydrogen, yet the power influencing this change is of an occult character, though evidently dependent on some external excitation which Mr. Hunt has proved not to be light, or the principle producing the phenomena of color.

The question of importance which Mr. Hunt also raised and proved true was to ascertain if the chemical principle of the solar rays produced any acceleration of the germinative process. He found that the periods of germination differed in each variety of seeds, under the conditions to which they were exposed, yet in every instance the seeds influenced by actinic radiations germinated in one-half the time which those seeds placed in the dark required.

Several arrangements were made for the purpose of ascertaining if the influence of the chemical rays was confined to the surface of the soil, or if it extended below it. The result was, that Mr. Hunt obtained the most satisfactory evidence that, under the influence of the rays which passed the blue glasses, germination was set up at a depth below the surface, at which under the ordinary conditions it did not take place. These facts go to establish, and in addition they prove, that there exists an influence which is always associated with light and which has the property of accelerating the process by which the embryo swells, bursts through its integuments, sends its radicle into the soil, and shoots its cotyledons upwards towards the light.

The condition of the seed in this process is tolerably well understood. The seed, a highly carbonized body, is placed in a position by which its starch ($C_{12} H_{10} O_{10}$) is changed into gum ($C_{12} H_{11} O_{11}$) and sugar ($C_{12} H_{14} O_{14}$). Here we have a large absorption of oxygen; and experiment has shown that carbonic acid (CO_2) is formed. The whole process is the same in character, as the blackening of a solution of nitrate of silver, holding organic matter, in the sunshine. Without the organic body the silver salt remains unchanged; with it a com-

bination with the oxidized carbon is effected at the same time as the organic particles take the oxygen from the oxide of silver in solution. All this is known to be entirely dependent on actinic power and independent of luminous action, and the whole process of conversion in the seed is of a like character.

Here is another singular fact. If the young plant continues to grow under the influence of the rays which have permeated the blue media employed in the experiment, it will for some time grow with great rapidity, producing, however, succulent stalks which soon perish. Even in the earliest stages of the growth it will be found, that the plants grown in the full sunshine, or under the influences of yellow or red media, representing the luminous and calorific principles, give a larger quantity of woody fiber and less water than those grown under actinic influence.

Another true explanation is further proved by the fact that in the practice of planting shoots the use of blue media is highly advantageous. It appears to increase the tendency to the development of roots, and it is satisfactory to learn that some gardeners have, without any knowledge of the cause, employed cobalt-blue glasses to aid in the "striking of cuttings." Dr. Lindley¹, referring to the experiments of Dr. Dauberry, seems disposed to regard the effects described as due to the absence of light merely; it is however, evident that the chemical principle of the solar beam materially assists in the development of new roots from cuttings. The formation of woody fiber depending on the secretion of carbon from the carbonic acid absorbed by the leaves, and decomposed, by some functional power of the plant, under the influence of external excitement, it has ever been considered important to determine if this was due to the luminous rays or to any others.

The experiments of Sennebier² went to prove that plants decomposed the carbonic acid they absorbed by the leaves much more readily under the influence of the violet rays than any others. This power of decomposing carbonic acid under the influence of the solar rays is a function due to some vital principle; which proves the position correctly taken by Matteucci³:—Different plants not only decompose carbonic acid at different rates, but they exhibit greater or less sensibility to luminous influence.

The conclusions from numerous experiments induced several scientists to draw these facts:

¹*Theory of Horticulture*, p. 215.

²*Mem. de Phys. Chim.* Tom. II, p. 55

³*Supplement a la Bibliotheque Universelle de Geneve*

That the luminous principle of the sun's rays is essential to enable the plants to effect the decomposition of the carbonic acid of the atmosphere and form their woody structure.

That some plants require more light than others to effect this decomposition.

It may be inferred from all the results obtained by actual experiments that the decomposition of the carbonic acid by plants under the agency of light is not a simple chemical operation, but the result of an exertion of the vital principle of the growing plant, which requires the external stimulus of light to call it into action.

I have made numerous experiments and have every reason to believe that it will be found that there is as great a difference between the effects produced on growing plants by the prismatic rays, as we know to be the case in photographic preparations;—the maximum effects altering, perhaps, for every variety of plant. It was these known facts that led me and others to subject the various living organisms in culture fluids, plates, etc., to the prismatic rays, so that some definite conclusions could be arrived at, as to their power, individual and combined over their growth, development, sterility, bacteriocidal value, etc. To this I shall again refer in this work.

A number of comparative experiments have been made with the unabsorbed prismatic rays, with a view to the settlement of several points at issue. The method pursued has been to place leaves in small tubes filled with water impregnated with carbonic acid, and to place these tubes across the rays formed by a very excellent flint-glass prism. The results have varied with every experiment.

If we place a small sprig covered with leaves in the tube we get the largest quantity of gas in one ray; if we remove the leaves from the branch, we shall then get the most gas under another ray. No two plants as far as I am aware, gave the same quantity of oxygen in the same time, under the influence of the same ray, and the age of the plant most materially alters all the effects, the same plant at one age giving evidence of being excited most readily by the blue rays, and at another by the yellow or the red rays. Moreover, I am satisfied that by removing a member, whether a branch or a leaf, from the plant, we give a shock to the living system which prevents our obtaining any results which shall actually represent the true conditions of the growing plant. On this point the experiments of Matteucci¹ are most satisfactory.

¹Cimenot, Juillelt et Aout, 1846.

In all experiments on the human being and on plants, it must be borne in mind that we are dealing with an organized body endowed with peculiar vital functions. As these are ever liable to derangement from numerous causes which are almost beyond the reach of our examination, it is only by a great number of crucial experiments that we can arrive at an approximation to the truth. It is, however, evident, from careful comparison of the results obtained, that *light* as distinguished from *heat* and *actinism*, is the principle on which the secretion of carbon and the evolution of oxygen by plants depends.

De Candolle succeeded in producing the green color of the leaves by the strong light of lamps, which we know give out a much larger quantity of yellow rays than any others; consequently it was inferred that light was necessary to the production of chlorophyl. Dr. Dauberry, however, obtained no result from the action of incandescent lime which emits a much purer white light, producing also chemical effects in a marked manner.

Dr. Lindley¹ refers the formation of the coloring matter of leaves to "the effect of decomposed carbonic acid and exhaling oxygen" by the agency of light, the intensity of color being in general "in proportion to the decomposing cause, that is to say, to light."

Some very interesting experiments are found recorded by numerous men who have tried to show that to the different rays in the spectrum is ascribed the office of different action. One important experiment was followed up by means of a heliostat being placed outside of a window from which was directed a pencil of light upon a flint-glass, equilateral prism; the prismatic spectrum was received in the dark chamber of an ordinary photographic camera, the place of the lense being occupied by a diaphragm which admitted the passage of the spectral image only. It was found, however, that the spectral image did not remain under the best conditions for more than three hours at a time. However, over every part of the spectrum giving light, the color recognizable by the unaided eye, the leaves of seedlings of the common cress, mustard, mignonette, and peas, which were in an etiolated state, became, after a longer or shorter time, green. In these as in other experiments, it was found that every variety of plant appeared to be influenced by different rays. It must be, however, observed that the influence was always most decided between the limits of the mean orange and the mean blue rays, and that it took much longer to green plants in the red than it did in the blue ray.

¹ *Theory of Horticulture*, p. 86.

Such are the results found recorded wherever I have hunted for evidence to prove my position in the spectrum work. Though some objections have been urged against the use of colored media in experiments, I am, after years of experience in the use of media, convinced that there is no other way of obtaining correct results without them. All the colors of the spectrum are merely modifications of the intensity of luminous power and it has been shown that light, heat and chemical action or actinism, are common to every ray, the difference being only proportional. Therefore, because an effect is produced in the yellow ray, we have no evidence that light alone is the agent; it may be due to the combined influence of light and the other principles. We have the means of analyzing with great correctness the permeability of colored media, and we can with considerable facility, by increasing the color or thickness of a fluid medium, produce almost any order of radiation, which may be maintained for days or months, in a constant character. For instance, a yellow medium does not imply the use of a yellow light or a red one the passage of red rays only, but a well regulated, yellow medium will give the most light with the least quantity of actinism, and a blue one, the largest amount of actinism with the least quantity of light. It will now be understood that I place more confidence in the results obtained under colored media than any which can be obtained with the prismatic spectrum upon growing plants and other experiments in physiological, bacteriological and photo-therapeutics, etc.

It has been shown that chlorophyl is formed under the combined influence of light and actinism. We can easily repeat that experiment with colored media which cut off the heat rays, but which admit the luminous and actinic rays. It will be found that plants grow of a lively green and the extracted green of their leaves is preserved without change much longer than under any other conditions. To produce chlorophyl a recombination of the elements which light assists the plant to separate from the water and the air is necessary; and there is no doubt that it will be proven that chlorophyl results from the combined influences of light and actinism in exciting one of those mysterious functions of plants which excite the admiration, but elude the curiosity of the physiologist.

Mr. Hunt says, "that he rarely succeeded in getting plants to flower under the influence of any of the media which cut off those rays usually termed the calorific rays." There is something in that, where also photo-therapeutics are applied. "For instance, under intense yellow, deep blue, or very dark green glasses, however carefully the plants

may have been attended to, there was seldom any evidence of the exertion of their reproductive functions." This evidently arises from the necessity of some check upon the chemical actions which depend on light and actinism, and which exhaust the elements in the formation of wood and vegetable juices which are necessary for the production of those principles which go to the preservation of the species.

It should be again explained, that by *light*, I mean to express all those rays of the spectrum which are visible to a perfectly formed human eye; by *actinic principle*, the principle to which the phenomenon of chemical change under solar influence or the electric arc belongs; and by *calorific radiations*, not merely those effects which are traceable by any thermometric instruments, but also those which we can detect by the protection change, produced by a class of rays existing near the point of maximum heat in the spectrum.

Experiments with red fluid media have shown that plants, under certain circumstances, have decidedly bent from it. It is a hard problem at the present state of our knowledge how to explain this as the effect of mere heat; it would appear that some property resides in the red rays which acts in opposition to the general law.

A few remarkable results must yet be noticed. Under all ordinary circumstances plants bend in a very decided manner towards the light. This is known as heliotropic phenomena. Herr Wiesner presented a monograph to the Vienna Academy in 1878, which is found in the *Anzeiger* of that academy: an idea of some of the fruits of his researches on this important subject is given in detail. In studying the *influence of light* and heliotropism, Herr Wiesner's experiments were made in the light of a gas flame which burned under a constant pressure with a uniform intensity (luminous power, 6.5 spermaceti candles). The unit for the measurement of the light intensity was the strength of this flame at the distance of one metre. It was found that in heliotropism three cardinal points of light intensity are to be distinguished, an upper limit, a lower limit, and between the two, an optimum of light intensity. Thus with decreasing intensity of light, the strength of the heliotropic effect increases to a certain point, and beyond this point decreases. The lower limit referred to coincides with the lower limit of light intensity for the stoppage of growth in length, while the upper limit does not coincide, or only occasionally coincides with the upper

limit of light intensity for the growth and length; for in the case of plants very sensitive heliotropically, it lies higher, and in less sensitive plants lower, than the upper limit for growth in length. The mode of arrangement of the experiment in gas-light did not permit of determining in all cases the limiting values of the light-intensities; thus, for example, the upper limit for the heliotropism of etiolated shoots of *Salix alba*, and of the hypocotylous portion of the stem of *Viscum album*, and the lower limit for the heliotropism of the growing stem of vetch could not be ascertained. The former lies about 400, the latter far below 0.008. The optima were found to lie between 0.11 (the growing stem of the pea) and 6.25 (etiolated shoots of *Salix alba*). Both with gas light and with natural light, it was ascertained that, beyond a certain intensity, no growth in length occurs.

He also speaks in this treatise of the relations between the refrangibility of the light rays, and the heliotropic effects. The experiments were made partly in the objective spectrum, partly in the varieties of light, gotten by sending white light through colored solutions. * * It was proved that portions of plants very sensitive heliotropically, e. g. growing stems of *Vicia sativa* undergo curvatures in all kinds of light, even in ultra-red and ultra-violet, with the exception of yellow. The maximum of the heliotropic force of light lies at the boundary between violet and ultra-violet; a second (smaller) in the ultra-red. From both maxima the power of the rays to produce heliotropism decreases gradually and to the yellow. Portions of plants little sensitive heliotropically, are no longer influenced by orange, or by red and green, or even in the case of etiolated shoots of *Salix alba* by ultra-red rays. The yellow rays quite stop the heliotropism; for example, in pure red a quicker and stronger heliotropism occurs in a light which gives yellow besides red. In another section of his experiments he gives us some important results on the joint action of positive and negative heliotropism and (positive and negative) geotropism. It is here shown *inter alia* that, in the case of plants very sensitive heliotropically, the geotropism is, at the optimum of light intensity, apparently extinguished, even in strongly geotropic organs; further, that in many organs (growing stem of the pea) the heliotropic and geotropic powers of curvature disappear simultaneously; in others, however, (stems of cress) the younger portions of the stem are more strongly heliotropic than the older; and the oldest aftergrowing portions of stem no longer show bendings in the light, but, through drawing action on one side the heliotropic overhanging point of the stem, show apparently heliotropic curvatures chiefly due to growth, which are then counteracted by negative geotropism.

The arguments go to prove that heliotropism is due to the phenomenon of unequal growth upon unequally lighted sides of an organ, which he forcibly sets forth in many experiments, and proof is offered that, for heliotropism as well as for growth in length, free oxygen is necessary.

He also furnishes proof that the conditions for heliotropism remain constantly the same during its course and coincide with the conditions for growth in length; further that heliotropism (and the same holds good for geotropism) occurs as a phenomenon of induction. It is also shown that when light induces heliotropism in an organ, a fresh heliotropic or geotropic induction meets with resistances, and can only come into action after extinction of action of the first; and that the successive impulses of light and gravity, of which each by itself is capable of producing certain effects, do not have their action added together when the effects that should be obtained separately are in the same direction, e. g., and the same side of the organ is helped in its growth in length.

LIGHT—ITS EFFECT UPON COLORED JUICES OF FLOWERS AND
OTHER PHENOMENA.

The action of light on the juices of plants has been carefully studied by M. Chevreul; but as his experiments were made with reference only to their permanence as dyeing materials, and with white light as it proceeds from the sun, they afford no information as to the influence of the separate rays, but, nevertheless, they are of vast value from a therapeutic point. This subject has alone engaged the attention of Sir John Herschel and Mrs. Somerville.

I shall mention as briefly as is consistent with a correct understanding of the matter, several of the most remarkable results obtained upon vegetable juices, referring all those who may desire more detailed information to his memoir itself.¹

In the *Philosophical Transactions* for 1844 is published an extract of a letter from Mrs. Somerville to Sir John F. W. Herschel, dated Rome, September 20, 1843, on the action of the rays of the spectrum on vegetable juices. There is so much that is curious in this communication, that I have extracted a portion to show the character of the investigations in which that lady was engaged.

"In the following experiments the solar spectrum was condensed by a lens of flint glass of 7 1-2 inches focus, maintained in the same part of the screen by keeping a pinhole, or the mark of a pencil constantly at the corner of the red rays, which were sharply defined by

¹On the Action of the Rays of the Solar Spectrum on Vegetable Colors etc. *Philosophical Transactions*, Part II, 1842.

using blue spectacles to protect my eyes from the glare of light, and the apparatus was covered with black cloth in order to exclude extraneous light.

"Thick, white letter paper, moistened with the liquid to be examined, was exposed wet to the spectrum, as the action of the colored light was more immediate and more intense than when the surface was dry. As I had not access to the morning sun, the observations were made between noon and three in the afternoon."

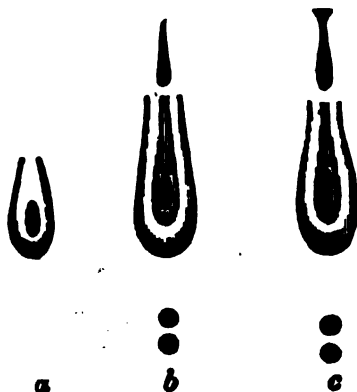
Mrs. Somerville approached very near to the discovery of the extra spectral rays of Stokes, as the following paragraph shows.

"The lavender rays came vividly into view; under a condensed spectrum, on white paper washed with a solution of sulphate of quinine in dilute sulphuric acid, they were narrow and their length by rough measurement was equal to the distance between the upper edge of the violet and the lower edge of the blue. They were very brilliant on black silk or other dark surfaces, and invariably of lavender color; and even on paper stained with turmeric, the pale yellow rays which you had observed were tipped with lavender, on being washed with the liquid though its duration was only momentary, as it vanished as the surface became dry; but they were permanent in other instances.

"The lavender rays change their color with a change of the liquid; for instance, they are lavender color on nitrate of silver discolored by light to a very pale brown, washed with a solution of sulphate of quinine in dilute sulphuric acid; whereas, on a similar surface of pale brown nitrate of silver, washed with the juice of the petals of the pale blue *Plumbago auriculata* in distilled water, to which sulphuric acid was added, they appeared of a vivid apple green, and acquired a tip of lavender color on the surface being washed with a solution of sulphate of quinine in dilute sulphuric acid of considerable strength. The effect, however, was transient. After several unsuccessful attempts to repeat this experiment next day, I at length discovered that its success depended upon the acid being strong enough to decompose the juice and give it a redish orange hue, and even then the rays are not vivid till the paper has been frequently washed with the juice and become nearly dry; and the experiment is more successful when the liquid has been kept a night. The action of the surface in changing the color of the lavender rays may be illustrated by passing the spectrum over paper coated with nitrate of silver brought to a clear yellow brown by exposure to the sun, one-half washed by the liquid in question, and the other half with a solution of sulphate of quinine in dilute sulphuric acid, and the first half of the lavender rays become vivid apple green, while on

passing to the other half, they instantly changed to an equally vivid lavender color. These rays often darken the surface throughout their whole length; sometimes they acquire a powerful bleaching action, and sometimes they have no effect, as evidently appears from the following experiments:

"The juice of fresh-gathered petals of double flowering pomegranate in alcohol afforded an example of this. Paper washed with this juice became rich crimson, and on being exposed wet to the condensed spectrum, a narrow line of deep crimson was formed at the junction of the green and yellow rays, or perhaps in the most refrangible yellow, surrounded by a whitish lozenge shaped border (a). On again washing the juice, instead of the white border, which had vanished, there was a crimson flame-shaped image, curved at the lower edge of the yellow rays, and tapering upwards to the violet; its color was darker than that of the ground, though paler than the narrow line which maintained its intensity, and although the latter increased in width, it did not become as broad as the image in question. At the upper end of the violet another little dark image was formed, apparently owing to the action of the lavender rays, having exactly their form; the orange and red rays, especially the red, had no effect, though at the distance of about half the length of the spectrum beyond the red, two distinct spots were formed of deep crimson, which I believe to be the best spots which you discovered. After some time a bleaching appearance surrounded the whole image from the red upwards, probably owing to rapid evaporation from the heat of the spectrum (b).



"Exterior bleaching frequently took place in the course of the experiments, permanent in some instances, while in others it vanished as the surface dried. When water was used with the juice instead of alcohol, the general character of the image was similar to that

described, except that the small figure beyond the violet was more distinct, and seemed to bear the same proportion to that formed by the rest of the spectrum which the length of the lavender rays bears to the length of the sum of the others; the bleached part round the whole was more extended and a faint crimson haze encompassed the dark spots, which were very distinct (c).

"The following are some of the cases in which the simultaneous effect was produced. For example, paper washed with the juice of the petals of *Globe amaranthus* in distilled water, on exposure to the spectrum, acquired a delicate pink tint which was soon bleached to whiteness from the upper edge of the green to the end of the lavender rays, while at the same time a perfectly circular spot of equal whiteness was seen under the red rays and a little way below them, which had the appearance of being an image of the sun. After more washing with the juice, the two bleached parts were united by a long white neck which speedily vanished, and was succeeded by a dark crimson image, whose greatest intensity of color was under the yellow rays. At some distance below the red rays two crimson spots were strongly marked, especially the uppermost, both surrounded by a paler halo.

"The juice of the petals of pale blue *Plumbago auriculata* in distilled water imparted its tint to writing paper, which after exposure to the action of diffused light acquired a pale yellowish green hue. The part under the lavender and violet rays of the spectrum, repeatedly washed with the juice assumed a pale brown color. The indigo rays seemed to have no effect, although from their lowest edge to the distance of half the length of the spectrum below the red rays, a lavender blue image was formed. Under the orange rays a minute indigo-colored spot appeared, and also a larger spot of the same color under the yellow, which were soon blended into one, forming a single oblong figure of maximum intensity, surrounded by a halo of paler indigo. An isolated disc of the same color as the halo, with two dark spots in its center, appeared at the same distance below the red rays.



"The juice of the beet-root in a strong solution of common salt, imparted a pink color to the paper, and the most refrangible rays acquired a powerful bleaching energy; the pink ground was whitened under the lavender, indigo and blue; a deep crimson spot was formed

under the yellow, with a rose-colored halo, elongated to the bleached part on one side and to the end of the orange on the other, while a hazy rose-colored disc was visible at a distance below the red. The crystallization of the salt on this figure was, in proportion to the intensity of color, most on the crimson spot and its halo, and on the colored disc, but scarcely any on the bleached portion."

The great number of instances now adduced in which we have distinct evidence of *chemical change* under the influence of the sun's rays appears sufficient to support the position, that the solar and electric arc-light rays are continually acting upon matter—it signifies little in what form it may be presented to their influence. We have distinct evidence that a sunbeam or the electric arc-light beam cannot fall upon any solid body without leaving permanent traces of its action. Throughout all these cited experimental researches the observations have shown the fact only too plainly.

The most casual observer could not fail to remark the peculiar influences of the solar agencies at different seasons of the year. In spring a fresh and lively green pervades the field and forest; this in summer assumes a darker hue and in the autumn passes gradually into a russet brown. There is no doubt that there is a marked difference in the chemical action exerted by the solar rays an hour or two before noon, or an hour or two after it. I was convinced at an early period of my experimental work of that fact, and the continued observations of some years prove that similar differences are to be detected between the solar emanations of the vernal and the autumnal periods (I have found these facts from some photographic experiments). The changes in the color of the leaves appear to be entirely dependent upon the absorption of oxygen which all the green parts of plants have the power of absorbing without intermission. This true case of chemical affinity, it would appear, goes on equally with the spring or the summer leaves; but during these periods the vital force, under the stimulus of the light, is exerted in producing the assimilation of the oxygen for the formation of the volatile oils, the resins and the acids. In the autumn this exciting power is weakened; the summer sun has brought the plant to a certain state, and it has no longer the vital energy necessary for continuing these processes. Consequently, the oxygen now acts in the same manner on the living plant as we find in experiment it acts upon the dried green leaves, when moistened and exposed to its action. They absorb gas and change color.

Sir John Herschel observes in reference to the action of light on the juices of plants: "The earlier flowers of any given species reared in

the open air, are more sensitive than those produced, even from the same plant at a later period in its flowering, and have their colors more completely discharged by light. As the end of the flowering period comes on, not only the destruction of the color by light is slower, but residual tints are left which resist obstinately." These residual tints are the same which produce the brown of the autumnal leaf; and the same agent may be traced in the production of photographs upon papers spread with expressed juices and on the changing colors of flowers and leaves.

Here we come to another most interesting physical problem which holds our attention for a brief moment. We find that the woody fibre of plants and all the carbon which is found as an elementary constituent of the resins, gums, juices, etc., of the vegetable world, is derived exclusively from the atmosphere to which it is supplied by the respiration of animals and all those processes of combustion which are continually going on. By some peculiar function these leaves of plants during every moment of their lives are absorbing carbonic acid. It has been stated that the reverse of this takes place during the hours of darkness, and that at night the leaves absorb oxygen, and exhale carbonic acid. It appears to me that this statement has been made without sufficient consideration, or the requisite experimental evidence.

"This reversal at night," says a most talented philosopher, "of what was done in the day, may, at first sight, appear at variance with the unity of the plan which we should expect to find preserved in the vegetable economy, but a more attentive examination of the process will show that the whole is in perfect harmony, and that these contrary processes are both of them necessary in order to produce the result intended."

He then, evidently feeling the difficulty of the question, proceeds to explain this harmony as follows:

"The water which is absorbed by the roots generally carries with it a certain amount of soluble animal and vegetable materials which contain carbon. This carbon is transmitted to the leaves, where, during the night, it is made to combine with the oxygen they absorb. It is thus converted into carbonic acid, which, when daylight prevails, is decomposed, the oxygen being dissipated, and the carbon retained. It is evident that the object of the whole process is to obtain carbon in that precise state of disintegration to which it is reduced at the moment of its separation from carbonic acid by the action of solar light on the green substance of the leaves; for it is in this state alone that it is available in promoting the nourishment of plants, and not in the crude condition in which it exists, when it is pumped up from the earth along

with the water which conveys it into the interior of the plant. Hence the necessity of its having to undergo this double operation of first combining with oxygen, and then being precipitated from its combination in the manner above described." These passages are selected, not with any view of reflecting upon their accomplished author, but because they afford the best expression of the views which have been generally entertained on the strength of the experiments of Saussure and Grishchow, which admit of another explanation.

It is the green parts of plants, principally the leaves and to a less extent the bark, which absorb carbonic acid. Plants grow in soils composed of divers materials, and they derive from these, by the soluble power of water which is taken up by the roots and by mechanical forces carried over every part, carbonic acid, carbonates and organic matters containing carbon.

Evaporation is continually going on, and water escapes freely from the leaves during the night, when the functions of the vegetable, like those of the animal world, are at rest. "A cotton wick," says another experimental philosopher, "enclosed in a lamp which contains a liquid saturated with carbonic acid, acts exactly in the same manner as a living plant—in the night. Water and carbonic acid are sucked up by capillary attraction, and both evaporate from the exterior part of the wick."

A plant placed in a vessel containing water impregnated with carbonic acid and carefully closed, so that no water could escape by evaporation except through the plant, was placed under the receiver of an air pump in which was put some pure potash, and a good exhaustion effected. The potash was found to have absorbed carbonic acid. The same arrangement was made, only that the water now used was distilled. Under the same circumstances in every respect, a like quantity of moisture was found to be absorbed by the caustic potash, but of course no carbonic acid. In these experiments the carbonic acid and water were mechanically drawn through the plant.

Precisely similar arrangements were placed under bell glasses filled with atmospheric air which was dried and freed from carbonic acid by exposure to potash for some time. In neither case could any diminution of the quantity of oxygen be detected, but traces of carbonic acid were found in the air in which the plant in the carbonated water was placed. These experiments were in the dark, and eudiometric examinations of this air have convinced Mr. Hunt that some oxygen is always given off.

There is no reversion of the processes which are necessary to support the life of a plant; the same functions are operated in the same way by day and by night, but differing greatly in degree. During the hours

of sunshine, the whole of the carbonic acid, absorbed by the leaves or taken up with water by the roots, is decomposed, all the functions of the plant are excited, the processes of inhalation and of exhalation are quickened, and the plant pours out to the atmosphere streams of pure oxygen, at the same time as it removes a large quantity of deleterious carbonic acid from it. In the shade, the exciting power being lessened, these operations are slower, and in the dark they are very nearly, but certainly not quite, suspended.

We have now certain knowledge. We know that all the carbon which forms the masses of the magnificent trees of the forest, and of the herbs of the fields, etc., has been supplied from the atmosphere to which it has been given by the functions of animal life and the necessities of animal existence. Man and the whole of the animal kingdom require and take from the atmosphere, its oxygen for their support. It is this which maintains the spark of life, and the product of this combustion is carbonic acid which is thrown off as the waste material and deteriorates the air. The vegetable kingdom, however, drinks this noxious air; it appropriates one of the elements of this gas, carbon, and the other, oxygen, is liberated again to perform its service to the animal world. It is not possible to conceive a more perfect, a more beautiful system of harmonious arrangement than this, making the animal and the vegetable kingdoms mutually dependent. The existence of the one ceases when the other is destroyed. If the vegetable world was swept away, animal life would soon become extinct; and if all animal existence was brought to a close, the forest would fall and the flowers of the field which now clothe the earth with gladness, perish in the utterness of a lamentable decay. It has been supposed that the vegetable world was called into existence long previous to the creation of animals, and to this period is referred the formation of the coal strata. There might have been an epoch when the disturbed condition of the earth—its earthquake shocks, and volcanic strugglings—may have poured so large a quantity of carbonic acid into the atmosphere, as to have rendered this planet unfit for the habitation of animals, until a teeming and most gigantic vegetation, by exhausting it for its own supply, purified the air and rendered the more quiet earth a fitting abode for creatures endowed with reason and with instinct. But the hypothesis is unsupported by facts, and it is not within the range of probabilities that the animal and vegetable kingdoms can ever have an independent existence.

The animal kingdom is constantly producing carbonic acid, water in the state of vapor, nitrogen, and in combination with hydrogen, ammonia. The vegetable kingdom continually consumes ammonia,

nitrogen, water and carbonic acid. The one is constantly pouring into the air what the other is as constantly drawing from it, and thus is the equilibrium of the elements maintained.

Plants may be regarded as compounds of carbon, vapor, oxygen, hydrogen, and nitrogen gases, consolidated by the all-powerful, all-pervading influences of the solar ray; and all these elements are the produce of the living animals, the conditions of whose existence is also greatly under the influence of these beams of sunlight which are poured in unceasing flow from the center of our system.

Can anything more completely display a system of the loftiest design and most perfect order, than these phenomena?

THE SOLAR RAYS AND THEIR INFLUENCE ON CHEMICAL COMBINATION.

There are many examples which show clearly the influence of the solar rays upon chemical combination. Here are a few remarkable instances which are worth our notice. Vogel observes, that if chlorine was passed into alcohol nearly saturated with that gas, and at the same time exposed to the sunshine, each bubble of chlorine, as it entered the spirit, exploded, giving a bright purple flame and a white vapor. This experiment I have repeated and found that the effect depends entirely upon the agency of the chemical radiation. The interposition of an orange glass, or a yellow fluid, is quite sufficient to stop this energetic chemical combination.

It has long been known to chemists, that a mixture of chlorine and hydrogen gases might be preserved in darkness, without combining for some time, but that exposure to diffused daylight gradually accomplished their combination, whilst the direct solar rays produced the sudden inflammation of the mixture. This combination has been investigated by Gray, Lussac, and Thenard, and also by Davy. Sir Humphry Davy states that in mixture, chlorine and hydrogen acted more rapidly upon each other, combining without explosion, when exposed to the red rays, than when placed in the violet rays. But he found that a solution of chlorine in water became a solution of muriatic acid most rapidly when placed in the refrangible rays. The former statement is doubtful.

My own experiments appear to show that the combination of these gases may be effected in every part of the prismatic spectrum, but that it is entirely independent of the luminous rays. I have kept chlorine and hydrogen without uniting, behind a yellow medium, for as long a period as I have been able to preserve the mixture in the weakest diffused daylight. It does not, however, appear to be quite independent of calorific

influence; for it is found that the combination is effected gradually under the influence of the dark rays of heat.

We have evidence to show that the chemical agent, whatever it may be, which accompanies light, is diffused over every part of the prismatic spectrum, although its action is modified by the luminous and calorific influences. Now, as it is proved that a very small amount of actinic power will occasion the chemical combination of these gases, we can well understand that it is diffused over the whole of the rays, although in different degrees.

Dr. Draper has shown that the light of a taper produces a decided effect upon the mixed gases, chlorine and hydrogen, and also that the light emitted during the rapid passage of the electric spark, acts powerfully upon them. For speed of action no tithonographic¹ compound can approach it; a light which perhaps does not endure the millionth part of a second affects it energetically. In the red the chemical influence is pretty active, and this, combined with the thermic power of that ray, accounts for the phenomenon observed by Davy. I have found, however, that the combination is effected with the greatest speed by the extreme blue and indigo rays. Dr. Draper has fixed the maximum in the indigo rays, and giving a numerical value to the forces exerted by the different rays, he calls the maximum power of the

Indigo ray.....	240.00
Blue ray.....	144.00
Violet ray.....	121.00
Green ray.....	54.00
Extra spectral ray.....	12.00
Yellow ray.....	2.00
Orange ray.....	.75
Red ray.....	.50?

The red ray should have a much higher power than is here stated, as it is found it is quite equal to the green ray, and I think superior to it in effect, since it has been shown that if glass tubes of small bore are used, the combination of the gases can be effected without any explosion.

Taking advantage of the action of the sun's rays upon these gases, Dr Draper devised an instrument for measuring the chemical force exerted by light. This instrument consists essentially of a mixture of equal volumes of chlorine and hydrogen which is evolved from and confined over muriatic acid, in a graduated bent tube. The gases are lib-

¹*Tithonicity* was a name given by Dr. Draper to the chemical rays, but which is perhaps badly chosen; and certainly not at all in accordance with the Lavoisierion principle of nomenclature.

erated from the liquid acid by the agency of galvanic electricity. Platinum wires, which can be connected with a voltaic battery, are inserted into the tube in such a manner that when the required quantity of the gases is formed the decomposition ceases, owing to the fluid having fallen below the wires. The gases combine in a longer or shorter time, according to the amount of light, the number of degrees over which the fluid falls in the graduated arm in a minute giving relatively the force in action. This instrument is certainly a very ingenious application.

The formation by the sun's rays of precipitates which do not occur in the dark, has engaged the attention of Sir John Herschel; but further investigations are required. Phenomena which have been observed lead me to believe that under no circumstances, where the changes are gradual, does precisely the same thing take place in darkness as in daylight. As far as observations have gone, it is found that in all cases where precipitation does not take place immediately upon mixing two solutions, there is a very marked difference in the time required for precipitation to ensue in a fluid kept in the dark, and in one exposed even to diffused daylight, this being, of course, more strikingly shown if one fluid is placed in the sunshine.

Chlorine, iodine and bromine, it is well known, act with considerable energy upon metallic bodies. If, however, any polished metal is exposed to the action of them in a diluted state, the combination is at first exceedingly weak, and the films that are formed by either of these three elementary bodies upon any metal, undergo considerable change under the influence of the sun. In most cases it appears that these bodies are set free, and the metal left in a state of very fine division or oxidization.

Copper, tin, iron, zinc, lead, pewter, bismuth and several other metals have offered the same results. It is still more remarkable, that films of bromine or iodine on glass are found, under the action of the sun's ray, to act in a similar manner; and in 1841 a scientist of note whose name I cannot find, published in some magazine a full account of the power of iodine in rendering wood capable of receiving photographic images.

In connection with this section of my subject, the following observation and experiments of Dr. Franklin are most important. They are abstracted from his "Researches on the Organic Radicals," published in the *Quarterly Journal of the Chemical Society*.

"Scheele, Seebeck, and others found that nitric acid exposed to sunlight is converted into nitrous acid and oxygen, whilst many metallic oxides lose the whole or part of their oxygen; thus peroxide of lead is resolved into metallic mercury and red oxide, whilst red oxide of mer-

cury, under water, is decomposed into grey oxide and oxygen gas.

"It has been long known, that certain inorganic bodies, containing iodine, such for instance as the iodides of silver and gold, undergo decomposition when exposed to light, the iodine compounds of the noble metals appearing to be most susceptible to this change.

"From the close relation of hydrogen to these metals, its iodide might be expected to possess the same susceptibility and this is, in fact, found to be the case; for it is well known, that aqueous hydriodic acid, even when preserved in closely stopped bottles, gradually turns brown on exposure to light, from the separation of free iodine, but the decomposition only becomes continuous when the iodine is removed as fast as it is liberated; it has also been observed, that when hydriodic acid gas is allowed to stand over mercury, its volume becomes reduced to one-half, and the residual gas consists of pure hydrogen; but whether this reaction only occurs under the influence of light, has not been clearly established.

"It has been remarked by almost all chemists who have had occasion to employ iodide of ethyl, that this liquid becomes brown from the separation of iodine when exposed even to diffused daylight; this observation, which I have myself of late also frequently had an opportunity of making, induced me to hope that a decomposition here occurs analogous to that suffered by the iodide of hydrogen under the same influence. I find that the ethyl compound when exposed to direct solar light, rapidly becomes of a dark brown color; but, as is the case with hydriodic acid, this separation of iodine soon ceases, and when a certain intensity of color has been attained no further action takes place; if, however, the free iodine be removed by agitating the liquid with mercury, the action immediately recommences and proceeds to the same point as before. This behavior of the iodine under light and in contact with mercury, indicated the method by which the action could be carried on continuously and the products collected and preserved.

"For this purpose several glass flasks of about 10 ounces capacity were filled with mercury, and inverted in a vessel containing the same metal, a few drops of iodide of ethyl being then introduced into each by means of a pipette; they were exposed to the direct rays of the sun. The surface of the mercury where it was in contact with the liquid, soon became covered with a film of proto-iodide, which, by the further action of the light, was converted into biniodide, whilst bubbles of gas were continually evolved and gradually displaced the mercury from the flask; finally, the whole of the iodide of ethyl disappeared, the gas and biniodide being the sole products of the decomposition. Although simple exposure to the sun's rays caused this action to take place with tol-

erable rapidity, yet it was greatly accelerated by placing each flask near the focus of an 18-inch parabolic reflector, which was not, however, so highly polished as to cause a very considerable elevation of temperature, the heat never rising to the boiling point of iodide of ethyl (71.6° C.).

"As iodide of ethyl is not in the least acted upon by mercury at a temperature of 150° C., it could scarcely be supposed that the comparatively low degree of heat at which these materials were exposed in the focus of the reflector could play any important part in the decomposition; yet, in order to set the question entirely at rest, an inverted bell-jar, containing iodide of ethyl, confined over mercury, was surrounded by a glass cylinder, and this latter filled, first with water, then with a solution of chloride of copper, and lastly with a solution of bichromate of potash. When the outer cylinder was filled with water, the decomposition proceeded with as much rapidity as without the intervention of that fluid, whilst the temperature of the water was scarcely perceptibly raised during the operation; the same was the case when solution of chloride of copper was employed; but on substituting the solution of bichromate of potash scarcely the slightest action was perceptible, even after several days exposure to bright sunshine.

"Now, since, according to Mr. Hunt at whose suggestion I employed these liquids, the solution of chloride of copper absorbs nearly all the heating rays and allows about 90 per cent. of the actinic rays to pass, whilst the solution of bichromate of potash intercepts the actinic and gives free passage to the heating rays, it is evident that the decomposition before us is due to the chemical influence of light, and is totally independent of the heating rays of the solar spectrum."

Based upon the above experiments and our knowledge of the action of light on chemical combination, I undertook a series of important experiments upon the effects of the administration of iodide of potash and soda, and mercury, in their various forms in the treatment of syphilis in its various forms.

Much to my astonishment, in cases where I could not get as rapid an impression upon the disease by the administration of these remedies in the usual way, I found that when the subject was placed under the electric arc-light, or in the pure sunlight, in a nude state, that these remedies acted almost magically and their impressions were noticeable in one-half the time than by the regular method of administration at our disposal. I had a number of mixed cases under treatment (that is syphilis, and tuberculosis of the lungs). I could not make as rapid a progress as I would have liked until I began the method of exposure of the body in a nude state half an hour after the administration of the iodide of soda, and mercury.

This combination of treatment in mixed cases of tuberculosis and syphilis will be found to give results that no other methods to date can possibly duplicate. Further on I have something to say of iron preparations upon which light acts within the body after their administration to which I call your attention most recommendably.

INFLUENCE OF THE SOLAR RAYS ON PRECIPITATION.

In 1832 Sir John Herschel communicated the remarkable fact, that when a solution of platinum in nitro-muriatic acid which has been neutralized by the addition of lime, and has been well cleared by filtration, is mixed with lime water in the dark, no precipitation, or scarcely any, takes place, but when (being thoroughly cleared of any sediment) this mixture is exposed to sunshine it instantly becomes milky, and a white or yellowish-white precipitate speedily falls.

By exposing this mixture behind colored media, Sir John Herschel found that the effect was due to the influence of the most refrangible rays. These mixtures another noted scientist placed in small glass tubes, and so arranged them that they were individually exposed to a separate ray of the spectrum; after an exposure of one hour the following results were obtained, the precipitates having been carefully washed and dried in the tubes in which they were formed.

Most refrangible rays beyond the visible spectrum.....	0.07 gr.
Violet rays.....	1.05 gr.
Indigo rays.....	0.60 gr.
Blue rays.....	0.45 gr.
Green rays.....	0.10 gr.
Yellow and Orange rays.....	—
Red rays.....	0.05 gr.

It is a fact worthy of especial notice, that this precipitation is so dependent upon the amount of sunshine, that precipitates obtained in the same time, being carefully weighed off, will show the relative amount of actinic influence to which they have been exposed.

Manganate of potash: A solution of this body, having been made in the dark, was placed in two glass vessels and set aside. After having been kept in darkness for two hours, the solutions remained as clear as at first. One of the vessels with its contents was then removed into the sunshine, when the solution immediately became cloudy and was very speedily decomposed, the precipitate falling heavily. By experiments with the spectrum I have since found that the precipitation is due almost entirely to the more refrangible rays. I have not been enabled to decide with that degree of accuracy I could desire, in which ray the maximum effect is produced. The precipitates formed in the

blue, indigo and violet rays were nearly of the same weight, but it did appear that the precipitation was most speedily produced by the mean blue ray. After all my experimental research, I find that the blue ray is one of the most powerful chemical action rays in the entire spectrum.

If we dissolve the brown precipitate from the chameleon mineral in a solution of cyanide of potassium, we have a clear fluid. Reserve one portion in darkness, and expose another to direct sunlight; the solution preserved in the dark will remain quite clear for many days, whereas that exposed to actinic influence throws down a brown precipitate after a few hours' exposure.

When a few grains of sulphate of the protoxide of iron are dissolved in rain-water and kept in perfect darkness, the solution remains clear for a long time; it becomes, however, eventually cloudy and colored from the formation of some basic salt of iron, even in tubes hermetically sealed. A few minutes' exposure to direct sunlight is sufficient to produce this change, and the salt formed, instead of floating in the fluid and, as, in the former case, rendering it opaque, falls speedily to the bottom.

Of course I could go into this subject deeper, taking up the question of the solar action on various metallic compounds, non-metallic compounds, thermography in reference to the examination of all the phenomena connected with the supposed radiation of light in absolute darkness, phosphorescence, the magnetizing power of light, etc., but all this is beyond the pale of this paper.

ON THE SOLARIZATION OF THE NUDE BODY BY THE SUN OR ELECTRIC
ARC RAYS AND THE PHYSIOLOGICAL AND PHYSICAL INFLUENCE
OF THESE RAYS UPON IRON PREPARATIONS AFTER
THEIR ADMINISTRATION.

I bring before your notice here one of the physical marvels which light is capable of producing upon the salts of iron, without and within the human body, or upon vegetation.

This physiological discovery has been followed up closely in its various aspects, and as a conclusion, I found that in the administration of iron-salts, in connection with the exposure thereafter of the patient's body to sunlight or the arc-light, an immediate physical and physiological change takes place, making it possible for metabolism to do the rest of the work, with results that are remarkable.

It is a noted fact that photographic chemistry has taught us much in many respects. We are indebted for nearly all the facts connected with the photographic properties of the salts of iron to the labors of Sir John Herschel. In his hands these salts have become valuable photo-

graphic agents; and two or three processes which have been devised are among the most interesting within the range of the photographic art. These various processes can be referred to in the many works on photography where the whole detail can be accurately studied.

I have found that nearly all the salts of iron, under the influence of the sun's rays or under the electric arc-light, for a longer or shorter period, undergo changes. Herschel found this fact:—Papers washed with the ferrosesquicyanuret of potassium exposed to the prismatic spectrum, proved that the decomposition of the salt and deposit of prussian blue is due to the action of the blue and violet rays below the blue, having absolutely no influence. The greatest activity appears to exist about the region of the indigo rays. The rationale of these different processes in photography has been well explained by Herschel. In nearly all cases the action of the sun's rays is a deoxidizing one. In the case of the ferrosesquicyanuret-of-potassium-process, where the paper is simply washed with the ferrosesquicyanuret of potassium, it is found highly sensitive to light. Exposed to sunlight for about an hour or less, with an engraving upon it, a beautiful negative photograph is the result. Really what happens physically is that oxygen which combines with hydrogen to form water is parted with. Prussian blue is deposited, the base being supplied by the destruction of one portion of the ferrocyanic acid, and the acid by the destruction of another. Herschel says: "It seems natural at first sight, to refer these curious and complex changes to the instability of the cyanic compounds; and that this opinion is to a certain extent correct is proved by the photographic impressions received on papers which have no iron but that which exists in the ferrocyanic salts themselves. Nevertheless, the following experiments abundantly prove that in several of the changes above described, the *immediate action* of the solar rays is not exerted on these salts, but on the iron contained in the ferruginous solutions, added to them, which it deoxidizes or otherwise alters, thereby presenting it to the ferrocyanic salts in such a form as to precipitate the acids in combination with the peroxide or protoxide of iron, as the case may be.

To make this evident, all that is necessary is simply to *leave out the ferrocyanate* in the preparation of the photographic paper which thus becomes reduced to a simple washing over with the ammonia-citric solution. * * * If a slip of this paper be held for any four or five seconds in the sun, or arc-light (the effect of which is quite imperceptible to the eye) and when withdrawn into the shade be washed over with the ferrosesquicyanate of potash, a considerable deposit of prussian blue is formed on the sunned part, and none whatever on the rest, so that on washing the whole with water, a pretty strong blue impression is left,

demonstrating the reduction of iron in that portion of the paper to the state of protoxide. The effect in question is not, it should be observed, peculiar to the ammonia-citrate of iron. The ammonia- and potassotartrate fully possess, and the perchloride, exactly neutralized, partakes of the same property; but the experiment is far more neatly made and succeeds better with other salts.

If this salt is mixed with perchloride of iron, and washed over paper, whilst it is exposed to the spectrum, the action is continued down to the very end of the thermic spectrum. The formation of the deposit color in this region is accompanied with phenomena of a novel character, referable to the heat developed by the thermic spectrum. Oval brown spots are formed which correspond with the heat spots referred to, and which are evidently due to calorific agency. If ammonia-citrate of iron is used instead of the perchloride, "a copious and richly colored deposit of prussian blue is formed over the whole of the blue, violet and extra spectral rays in that direction, extending downward (with rapid graduation) almost to the yellow in the spectrum." If the action of light is continued, the blue and violet rays in a very strange way destroy their own work. "A *white* oval makes its appearance in the most intense part of the blue, which extends rapidly upwards and downwards; at a certain point of the action the upper or more refrangible extremity of the white impression exhibits a semicircular termination, beyond which is a distinct and tolerably well defined conjugate image, or insulated circular white spot, whose center is situated far beyond the extreme visible violet."

As far as my researches have gone, all the persalts of iron are converted into proto-salts by exposure to sunlight and electric arc-light rays, when in combination with organic matter. This has been most fully confirmed and even in soils all the persalts are changed to proto-salts of iron by the action of growing vegetable and light. I have reasons for believing that all the proto-salts undergo some change. What this change may be it is impossible to say at the present stage of the inquiry, but it will be seen that scarcely any of the metallic salts resist the agency of the sun's light or arc-light rays.

It was these facts that first led me to undertake a number of physiological experiments to test the value of the different salts of iron in conjunction with light administration. In over one hundred tuberculous patients the different iron salts and organic preparations of iron were administered and the patients placed daily in the way of the sun's rays and electric arc-light. Much to my surprise I found that the iron salts (organic iron preparations) were taken up most rapidly, showing marvelous constitutional effects. After the first week the blood counts

proved their richness in number to an enormous amount, as compared with previous counts, by the older methods of administration and with other preparations by the old daily method. The haemoglobin increase was very marked.

To-day for the first time since my experimental work, I bring this new method before your notice, knowing of nothing more powerful that will assist in supplying iron to the system more rapidly than usual, in cases where it is indicated, than this method of administering salts of iron in combination with light. We also know that iron in various forms is being introduced daily into the system by many articles of food; light affects these forms of iron in exactly the same manner as if it were taken in the form of the salts. It is often a good plan, where it is feasible to allow the eating of such foods and vegetables as much as possible. I have taken notice of this fact in a number of cases and must say very satisfactory results have been obtained. Amongst the different forms of iron and its compounds, that I made use of in my investigations, were the Blaud's pill in capsule in a fresh state, the ammonia-citrate of iron, carbonate of iron, tetrachloride of iron, and Tropon. This organic compound with iron was selected by me upon its merits; I found it contained vegetable and animal materials in such a state as light would perhaps have a rapid action upon. Much to my own surprise I noticed that this organic food with an iron preparation showed important therapeutic results after a very short time. It also gave the least digestive disturbances, as compared with the others. Hard boiled eggs and iron powder gave me excellent results. All iron preparations exhibited in connection with light rays, left beyond a doubt their physiological workings.

HINTS IN CONNECTION WITH THE ADMINISTRATION OF LIGHT RAYS.

White or light colored clothes transmit more light to the body than those of any other color, while black or dark colored clothes absorb the light and degrade it into the coarser principle of ordinary heat. You may ask me the question: Is not an object white from the fact of its reflecting all the colors? How then can it transmit them? I answer you as follows: The white reflects a large amount of all the rays, but all those rays which penetrate the interstices of a white garment sufficiently far, pass in as white ones beyond it from the repulsive nature of all the threads, while a black garment from its great affinitive attraction for all the rays greedily absorbs them and prevents their escape on the other side. A sufficient proof of this is the fact that a black or blue curtain will darken a room far more than a white or buff-colored one. But the dark colored curtain of itself will be warmer than the white

one. The experiments of Dr. Franklin, in which he put various colored cloths on the snow, are well known. The darker the color of the cloth, the more deeply did the snow melt beneath it under the solar rays. But this does not signify that the black transmitted more heat, but absorbed it, and the garment thus warmed melted the snow because of contact with it. If the cloths had been placed some distance above the snow, the light colors, transmitting the heat more rapidly, would have melted the snow more quickly, just as we see that yellow and orange and red glass transmit more heat than the blue.

The rule is, that if radiant heat "be entirely transmitted, no elevation of temperature is produced in the body through which it passes," and the very fact that a body grows warm under the heat rays shows that the rays are not transmitted, but absorbed.

It is for the above reasons that all clothing for general wear of tuberculous patients should be made up from the lightest colored materials (preferably all white garments, down to the underclothing). This is highly commendable. The nude state of the entire chest down to the waist exposed daily for several hours, is, of course, still better. I have seen most wonderful results from the exposure of the entire body in a nude state in solaria which were built for several of my patients, and which had all the appointments suitable for the different seasons of the year.

We read in the history of ancient Greece how the inhabitants had small terraces, in the form of solaria built on the tops of their houses, and in which they took their daily sun baths. There is nothing to prevent the owners of general dwellings from providing for their tenants, a solarium, built above the body of every house on the roofs and furnishing it with modern appointments, making it useful both in winter and in summer. If provisions are made for the certain days in which the sun's rays are not accessible, the electric arc-lighting may be resorted to. This takes the place of the sun's rays. In this manner a continuous use of light rays may be had at all times.

This method should be employed in every hospital that professes to treat the consumptive according to modern principles.

Children who are weaklings and those who are pretuberculous should be reared in solaria for several hours daily. The solarium should be so constructed that it would be independent of climatic conditions, from every point of view. I have had a number of practical clinical experiences, within the last ten years, with solaria and I commend their use in the highest terms.

Gymnastics must also be practiced in the nude state and hydrotherapeutics added to the treatment in general.

We have thus seen that the magnetic, electric powers of the sun's rays reside in the violet ray, which is a compound of the blue and red rays. These constitute what are termed the chemical powers of the sunlight. That they are the most important powers of nature, there can be no doubt as without them life cannot exist on this planet. Without these chemical powers there could be no vegetation or anything else.

Light is inimical to, and under favorable conditions may wholly prevent, the development of organism. The action of light entirely destroys the bacteria, or reduces them to a condition of torpidity which requires months of darkness in favorable surroundings for them to overcome. In my experiments, I took small test tubes containing cultivation fluid, which were suspended in deep, narrow boxes made of garnet, red, yellow, blue and ordinary glass, respectively. Although the blue and yellow glasses were not monochromatic, the results showed that the action is chiefly dependent on the blue and the violet rays.

It is probable, therefore, that if the phenomena were represented by a curve, the maximum elevation would be found in or near the violet. The organisms, with which many of the experiments were carried out, afford an example of protoplasm in a simple and uncomplicated form, but it would be unreasonable to suppose that this protoplasm is so essentially different in its fundamental constitution from all of the protoplasm, that here, and here only, is this special effect of light to be found. There are many facts which prove the contrary and indicate, not with a special and fortuitous phenomenon, but with a general law.

I have found that not all the rays of the spectrum are able to exert an influence upon the direction of the movement of the spores, it being only those which are strongly refracted (blue, indigo and violet) that produce stimulation. If a vessel containing a deep-colored solution of ammoniated copper oxide which only transmits blue or violet rays, be placed between the source of light and the preparation, the spores are seen to react just as if they came in contact with ordinary white light: on the other hand, they do not react at all to light, which is passed through bichromate of potassium solution, through the yellow vapor of a sodium flame, or through ruby-red glass; another very important and complex manifestation of the effects due to light is seen in the movements of the chlorophyll corpuscles.

Light acts as a stimulus to animal and plant protoplasm. It induces characteristic changes of form in individual cells and causes movements in fixed directions in free-living unicellular organisms.

I have discovered, by experiment and practice, the special and specific efficacy in the use of the combination of the calorific rays of the sun,,

and the electric arc-light in stimulating the glands and cells of the body, the nervous system generally, and the secretive organs of man and animals. It, therefore, becomes a most important adjuvant element in the treatment of acute and chronic diseases, especially such as have become chronic, or result from derangement of secretive, perspiratory or glandular functions, as it vitalizes and gives renewed activity and force to the vital currents that keep the health unimpaired, or restore them when disordered or deranged.

SOME STUDIES OF THE INFLUENCE OF THE ELECTRIC ARC-LIGHT UPON GREENHOUSE PLANTS.

At the agricultural experimental station of Cornell University in the winter of 1889 and '90, some experiments on an extensive scale were carried out to determine what influence the ordinary electric arc-light exerts upon plants in greenhouses. Much has been said among gardeners concerning supposed retarding or accelerating influences of the arc-light upon plants. Many have supposed that the electric light can be introduced profitably into greenhouses for the purpose of hastening growth. The general opinions varied on this subject, until these experiments and those by the Horticultural Department of Washington settled some of the most important points in connection therewith.

The first experiment to determine the influence of electric light upon vegetation was made by Herve Mangon in 1861.¹ This experiment showed that the electric light can cause the production of chlorophyll, or green color to plants, and also, that the light can produce heliotropism, or the phenomenon of turning or bending towards the light.

In 1869, Prillieux² showed that the electric light in common with other artificial lights, is capable of promoting assimilation, or the decomposition of carbon dioxide in water. The next experiments appear to have been those of C. W. Siemens, in England, and P. P. Deherain, in France. These two, with those of Cornell and the Washington Horticultural Department appear to be the only definite investigations of this subject.

The English experiments, although eminently practical, were conducted by an electrician, and the French were largely confined to physiological problems. It seemed proper that the third series of experiments should be approached from the particular standpoint of the gardener.

Dr. Siemens' experiments may be divided into two series: In one series the lamp was placed inside the greenhouse, and in the other

¹Compt., Rend. 53, 243.

²Compt., Rend. 69, 410.

suspended over it. In both cases he observed marked effects upon vegetation in a short time.¹

A great variety of plants was treated. The dynamo which Siemens used in his first experiment, "makes 1,000 revolutions a minute; it takes two horse-power to drive it, and develops a current of 25 to 27 meters, of an intensity of 70 volts". The light produced is equal to 1,400 candles measured photometrically..

When the lamp was placed inside the house, plants within three or four feet of it suffered much, the leaves of the melons and cucumbers "which were directly opposite the light turning at the edges and presenting a scorched appearance." When these injured plants were removed to a distance of seven or eight feet, they showed "signs of recovery, throwing out fresh leaves, with pearls of moisture at their edges." In general, plants which were exposed to normal conditions during the day and six hours of electric light at night far surpassed the others in darkness of green and vigorous appearance generally." The flavor was fully as good in the electric light fruits as in the others. The results were supplemented by larger experiment in the winter of 1880 and 1881.

In this case a lamp of 4,000 candle-power was used, and it was placed inside a house of 2,318 cubic feet capacity. The light was run all night, and the arc was at first not protected by a globe. The results were anything but satisfactory, the plants soon becoming withered. At this point a globe of clear glass was placed upon the lamp and thereafter the most satisfactory results were obtained. Peas, raspberries, grapes, melons and bananas fruited early and abundantly under continuous light—solar light by day and electric by night.

The strawberries are said to have been of "excellent flavor and color" and the grapes "of stronger flavor than usual." The bananas were "pronounced by competent judges unsurpassed in flavor," and the melons were "remarkable for size and aromatic flavor." Wheat, barley, and oats grew so rapidly that they fell to the ground of their own weight. The beneficial influence of the clear glass globe was therefore most marked. The effect of interposing a mere sheet of thin glass between the plants and the source of the electric light was most striking. On placing such a sheet of clear glass so as to intercept the rays of electric light from a portion only of a plant—for instance a tomato plant—it was most distinctly shown upon the leaves. The portion of the plant under the direct influence of the naked electric light, though a distance

¹*Proc. Royal Soc.*, XXX, 210 and 293. *Rep. British A. A. S.*, 1881, 474. See also abstract in *Nature*, XXI, March. 11, 1880, and an editorial in the same issue.

from it of nine or ten feet¹ was shrivelled, whereas that portion under cover of the clear glass, continued to show a healthy appearance, and this line of demarkation was distinctly visible on individual leaves; not only the leaves but the young stems of the plant soon showed signs of destruction when exposed to the naked electric light, and those destructive influences were preceptible, though in a less marked degree, at a distance of twenty feet from the source of light."

In other series of experiments Siemens placed an electric lamp of 1,400 candle-power about seven feet above a sunken melon pit which was covered with glass. The light was modified by a clear glass globe. In the pit, seeds and plants of mustard, carrots, turnips, beans, cucumbers and melons were placed. The light ran six hours each night and the plants had sunlight during the day. In all cases those plants "exposed to both sources of light showed a decided superiority in vigor over all others, and the green of the leaf was of a dark rich hue." Heliotropism was observed in young mustard plants. Electric light appeared to be about half as effective as daylight. A great difficulty experienced in this experiment was the films of moisture which condenses on greenhouse roofs at night, and obstructs the passage of light. The light was at one time suspended over two parallel pits nearly four feet apart, and the effect was observed upon plants under the glass and in the uncovered space. In all cases the growth of the plants was hastened. Flowering was hastened in melons and other plants under the glass. Strawberries which were just setting fruit, were put into one of the pits, and part of them were kept dark at night, while the others were exposed to the light. After fourteen days, the light having burned twelve nights, most of the fruits on the lighted plants "had attained to ripeness and presented a rich coloring, while the fruit on those plants that had been exposed to daylight only, had by this time scarcely begun to show even a sign of redness." He concludes that a lamp of 1,400 candle-power produced a maximum beneficial result at a distance of three meters (nearly 10 feet) above the glass but "the effect is nevertheless very marked upon plants at a greater distance."

At the close of his experiments Siemens was sanguine that the electric light can be profitably employed in horticulture, and he used the term "electro-horticulture" to designate this new application of electric energy. He anticipated that in the future "the horticulturist will have the means of making himself practically independent of solar light for producing a high quality of fruit at all seasons of the year."

¹It is to be observed that the light used by Dr. Siemens' in this case was 4,000 candle power.

He had shown that growth can be hastened by the addition of electric light to daylight, that injury does not necessarily follow continuous light throughout the twenty-four hours, that electric light often deepens the green of leaves and the tints of flowers, and sometimes intensifies flavors, and that it aids to produce good seeds; and he thought that the addition of the electric light enabled plants to bear a higher temperature in the greenhouses than they otherwise could. But whatever may be the value of electric light to horticulture, the practical value of Siemens' experiments is still great. They have furnished data in several obscure relations of light to vegetation. *Nature* made the following comments upon this feature of the application of the electric light by Dr. Siemens: "But the scientific interest of its present application must rest mainly on the fact that the cycle of the transformation of energy engaged in plant life is now complete and that we can run through the changes from heat to electricity and thence to light, which now we know we can store up in vegetable fuel again."

Deherain's experiments were conducted at the *Exposition d'Electricite*, Paris, in 1889. A small conservatory standing inside the exposition building was divided into two compartments. One compartment was darkened and the glass painted white upon the inside; this received the electric light and all solar light was excluded. The other compartment was not changed. The amount of sunlight which the plants normally received in this conservatory within an exposition was not sufficient to maintain a healthy growth. A lamp of 2,000 nominal candle-power was used. At first the naked electric light was used and it ran continuously. Barley in head and flax in flower were brought into the lighted compartment; also chrysanthemums, pelargoniums, roses and a variety of ornamental plants. After seven days of continuous electric lighting most of the plants were seriously injured.

All the pelargoniums lost their leaves, cannas were discolored, four-o'clocks were tarnished and bamboos were blackened. "But the most curious effect was produced upon the lilacs; all the parts of the leaves that had received the direct rays from the lamp were blackened, while those protected by the upper leaves preserved their beautiful green color, and the impression produced upon the epidermis by the electric rays had the clearness of a photographic plate." Similar effects were produced upon azaleas, dentzias, and chrysanthemums. It was found that this discoloration did not extend beyond the first layer of palisade cells. Plants which received solar light by day and electric light at night were injured in the same manner, but only in a less degree. The injury was most marked upon the old leaves. The pelargoniums soon sent out new shoots and the young leaves resisted the action of the

light much longer than did the mature ones. The flax continued to grow and the barley ripened. It was found that plants under the electric light alone were able to assimilate, but the action was very slow. As much assimilation took place in an hour on a bright summer day as in several days of electric light. At the expiration of two weeks the condition of the plants was so bad that a change was made, and thereafter a globe was used upon the lamp.

The experiment with modified light by use of a transparent glass globe was conducted like the preceding. Sprouting seeds in electric light alone grew for a short time, then drooped and died, not being able to make true leaves. Sprouting maize turned black, but maize in full growth remained in apparently good condition, though not growing even for two months. New leaves appeared on roses and other plants, but growth was slow or none. Flowers did not appear, and seeds did not mature in previously formed fruits, except in the case of barley, which made good seeds. New growths appeared at the base of some plants, and the petioles of pelargoniums became very much elongated. Many plants remained almost stationary throughout. Assimilation was more feeble than under the naked light. Plants which had been set out of doors during the day and brought into the electric light house at night did not behave any better, if as well, than those left out of doors continuously.

Deherain's account was replete with interesting speculations upon the physiology of the plants under experiment. His general conclusions of the influence of electric light upon plants are as follows:—

1. The electric light from lamps contains rays harmful to vegetation.
2. The greater part of the injurious rays is modified by a transparent glass.
3. The electric light contains enough rays to maintain full-grown plants two and a half months.
4. The light is too weak to enable sprouting seeds to prosper or to bring adult plants to maturity.

Finally, observations were made more recently upon the influence of the electric light upon plants in the winter palace at St. Petersburg. It was observed that in a single night ornamental plants turned yellow and then lost their leaves. Yet it is well known that incandescent lamps can be lodged in the corolla of a flower without injuring it.

I refer you to the literature for fuller information than it is here my privilege to give.¹

¹*Cornell University Agricultural Experiment Station Bulletin*, 30, August, 1891; *Electro-Horticulture Bulletin*, 42, Sept., 1892; Hatch, *Experimental Station of Massachusetts Agricultural College Bulletin*, 23, Dec., 1893.

I however cite a few points which are clear:—"The electric light promotes assimilation, it often hastens growth and naturally, it is capable of producing natural flowers and colors in fruits; it often intensifies colors of flowers, and sometimes increases the production of flowers. The experiments show that periods of darkness are not necessary to the growth and development of plants. There is every reason, therefore, to suppose that the electric light can be profitably used in growing of plants.

The experiments suggest many physiological speculations upon which it is not the province of the bulletin to enter, yet two or three of them may be mentioned. It is a common notion that plants need rest at night, but this is not true, in the sense in which animals need rest. Plants have simply adapted themselves to the conditions of attending daylight and darkness, and during the day they assimilate or make their food, and during the night when, perforce, assimilation must cease, they use the food in growth. They simply practice an individual division of labor. There is no inherent reason why plants cannot grow in full light, and in fact, it is well known that they do grow then, although the greater part of growth is usually performed at night. If light is continuous, they simply grow more or less continuously, as conditions require, as they do in the long days of the arctic regions, or as our plants did under continuous light. There is no such thing as a plant becoming worn out or tired out because of the stimulating influence of continuous light.

It would seem, therefore, that if the electric light enables plants to assimilate during the night and does not interfere with growth, it must produce plants of great size and marked precocity. But there are other conditions, not yet understood, which must be studied."

Hundreds of these exemplary facts upon the action of light rays in connection with chemistry, physio-chemistry, physiology and photo-therapeutics are known to us. The facts that I have cited here and there must suffice to give one an idea, at least, of the power that light exerts upon matter.

ELECTRIC ARC CROMOLUMES FOR GENERATING VIOLET RAYS OF LIGHT AS AN ADJUNCT TO THE TREATMENT OF TUBERCULOSIS.

In 1896 I published in the *New York Medical Journal*, some important remarks upon this subject, and since then have made many important chemical and physiological tests as to the power of light in therapeutics. Tuberculosis interested me mostly, so I dropped from

my list of researches many experiments which belong to other domains of medicine.

My specially constructed electric arc-light lamps for generating violet rays of light, (color light or chemical rays) have undergone many changes since my early experiments. I found that concentration of light would mean a great factor in the development of this principle and therefore more generating power was a necessity. This gave these parallel rays much more penetrating capacity for dense tissues; I therefore reconstructed my older models, and now use the apparatus as illustrated. Next came the question of simplicity of construction and management. I have succeeded in this undertaking after many trials.

These illustrations show several types used by me in my daily clinical practice which have proved most satisfactory as to results. These types of lamps are capable of generating rays of the highest quality, besides having the power of penetration.

I showed that concentrated rays of light as produced from an electric arc lamp of high power pass through the solid tissues as well as through bone, by allowing these rays to fall directly upon the chest-wall and, as a proof of this fact, printing from a negative plate or film upon a sensitive plate, and subject matter thereon, in less than fifteen minutes. This test, as I say, has again been confirmed by Dr. J. W. Kime, of Fort Dodge, and he differs in the method employed by me by using concentrated sunlight, instead of the electric arc.

As far as my clinical record goes, I can say here, that I have employed these colored rays of light as an adjunct to the general treatment of tuberculosis of the lungs with the most successful issue in sixty cases. I find that electro-arc solarization can claim for itself a rank as one of the greatest tonics and bacterial destroyers. There are many scientific facts regarding the chemical and physiological action upon the system which need study. Still, several which I have already studied and made use of, seem to fill the long-felt want in the treatment of this disease.

Of these sixty cases, I can report forty cured, and in twenty the disease was arrested to such an extent as the pathological changes present when they came under treatment, would admit. I now fully believe from my experience that, as an adjunct, light rays play a leading rôle in the treatment of tuberculosis. I want to stand upon these remarks for a future record.

The administration of these rays must be understood from the very first. Dosage, and how given, plays an important part, and no one should attempt to use them homeopathically. Long exposure is one of the prime rules—nothing less than a half-hour over the nude surface of

the selected areas; however, a longer time is preferable for each sitting.

A simple description of these electro-arc generators of the chrom-rays, and the method of employing them is essential. I gave these lamps the name of *electro-arc chromolumes*, as they are the sole producers of these specific colored rays. Their construction is so simple that their management does not require any study. They are all capable of giving from 2,000 to 20,000 candle-power or more. This high candle-power or efficiency is dependent upon the amount of current at one's disposal. There is no difficulty in getting any amount of electric current for their operation. All that is necessary is to have the room wired with an exact thickness of carrying efficiency, and then to have a transformer of exact size—which any company is always ready to furnish on application.

My own plant is furnished with a 40 amperes current transformer and the lamps are so constructed that more or less current does not affect them. By this arrangement any one can change his installation according to his work.

Each lamp for generating these chemical rays has fitted to it, one rheostat, and therefore, more than one generating lamp can be set in operation at the same time, and in the same room or elsewhere. Also they can be installed to operate on a single rheostat in such a manner that any special lamp may be selected where there are more than one in use. There are several different types of my lamps now on the market and they are made suitable to the different electric currents, for the high tension and the low tension (the alternating or the Edison direct current), as this was a most necessary point to be considered. For the high tension current, I constructed a lamp which operates both automatically and as hand-fed. This lamp, in order to get a steady and pure light spot, is provided with a concave mirror, and a moving gear for adjusting the focal lines—a most important device, this adjustment—as the focal parallel lines can be changed to the exact spot wanted. The focal spot ranges from 3 1-2 inches to 17 1-4 inches of concentration. By this means any part of the pulmonary apex or other portion of the anatomy can be treated accordingly. For the low tension, (Edison direct current) the lamps are different. The focal lines are created by a Mangin's mirror on the principle of the search-light, and have the same advantages as the other lamps.

A screen and hood, carrying a shutter on the front of the lamp, for cutting down the size of the light spot to be used, according to the area to be covered with the light rays, accompanies every electro-arc chromolume. This screen is a piece of additional apparatus and is for the purpose of screening the heat rays emitted during the operation of

the lamp upon a selected surface with a high concentration of the light-beam, for any length of time. It consists of blue glass, cut in strips, set in a framework, on a movable stand, capable of many changes of position.

All these generating lamps are mounted on stands which give any angle of motion suitable for application. The entire lamp, screen, etc., can be removed over any area of the operating chamber. They have long cables attached to the lamps, coming from the electric feeder of the installation. I have used several of these types and each one has its own particular value.

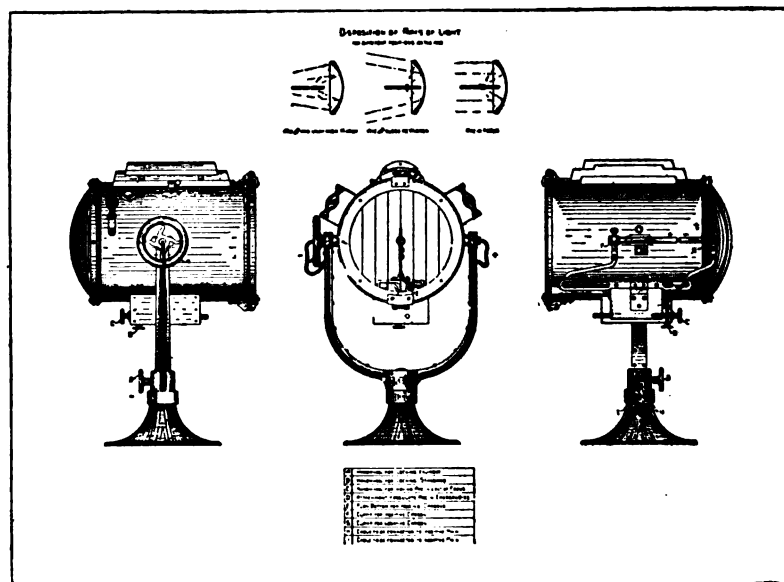


Fig.20. Diagram of the of the Electro-Arc Chromolume showing the details of its working.

The new types which I illustrate are adaptable for all purposes; one can get a concentrated beam from one-half to thirty or more inches. These illustrations speak for themselves. I present a photo by way of illustration, of the chromolume in full operation, taken from my earliest experimental work in 1894. This gives an idea how the light is applied to tuberculous patients.

GENERAL INFORMATION ON THE MANAGEMENT OF THE ELECTRO-ARC CHROMOLUME.

In focusing the lamps it is most important to note that the upper carbon is positive and in connecting the lamps the positive current must

flow to the upper carbon. The positive carbon is cored 12 inches long and negative solid 7 inches long; in these lamps the carbons burn in this proportion and thus keep exact focus. When 30 to 35 amperes is used the carbons should be of 5-8 diameter. Good carbons are necessary for good light, and the lamp is often blamed when fault lies with the carbons. These lamps have horizontal feed carbons; the positive is in the front holder with its point facing the mirror.

As before stated, it is necessary to see that the positive current flows to the positive or front carbon. Clamp in securely the long cored positive carbon and the short solid negative, so that the meeting point is the focus of the mirror; this varies according to the diameter of the mirror; the distance, approximately, is given in the following table. See that the carbons line up straight. The lamp box is on a movable carriage, the hand wheel at the rear of the lamp-case moves the lamp either nearer or farther from the mirror. If the lamp is too far forward the beam will have a dark center; by drawing the lamp closer to the mirror this will disappear and the beam will be clear and round and the rays of light entirely parallel. The mirror projectors are fitted with attachment to feed the carbons by hand if occasion should require. the arc-lamp burns at 45-48 volts. The lamp is perfectly steady on the low voltage of 50 direct incandescent circuit, but the rheostat supplied with the projector is regulated to any voltage as given.

TABLE OF THE DIFFERENT SIZES OF LAMPS AND CANDLE POWER.

Diameter of Mirror.	Amperes.	Diameter Carbons.		Candle Power at the Arc.	Candle Power Projected.	Focal Length.
		P.	N.			
7 in.	10	1-2 in.	7-16 in.	2000	8000	3 1-2 in.
9 in.	15	9-16 in.	1-2 in.	3000	12000	4 1-2 in.
12 in.	25	5-8 in.	9-16 in.	5000	20000	7 in.
16 in.	40	11-16 in.	5-8 in.	8000	32000	9 in.
20 in.	60	3-4 in.	5-8 in.	12000	48000	10 in.
24 in.	80	7-8 in.	3-4 in.	16000	64000	12 3-4 in.
30 in.	100	1 1-8 in.	1 in.	20000	80000	17 1-4 in.

Let me say, in concluding this short article on my chromolume, to those who will follow up this method of photo-therapeutics as an adjunct to the general treatment that they will be most amply paid for the trial. With light rays, hygienic food, fresh air, exercise and such suitable remedies as are indicated according to the case in hand, 75 per cent. of tuberculous patients are curable, that is curable to a certain extent, according to the lesions or pathological changes already present at the time the case comes under treatment.

Of course we all understand that pathological conditions which have in certain stages of this disease left their markings, cannot be changed. We cannot give the patient any more breathing capacity



**Fig. 19. The Screen
with Blue Glass.**

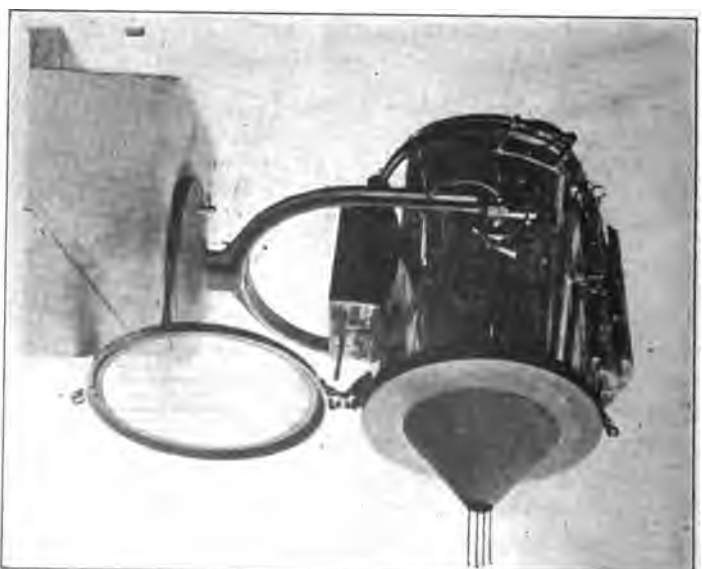


Fig. 18. The Electro-Arc-Chromolumne.



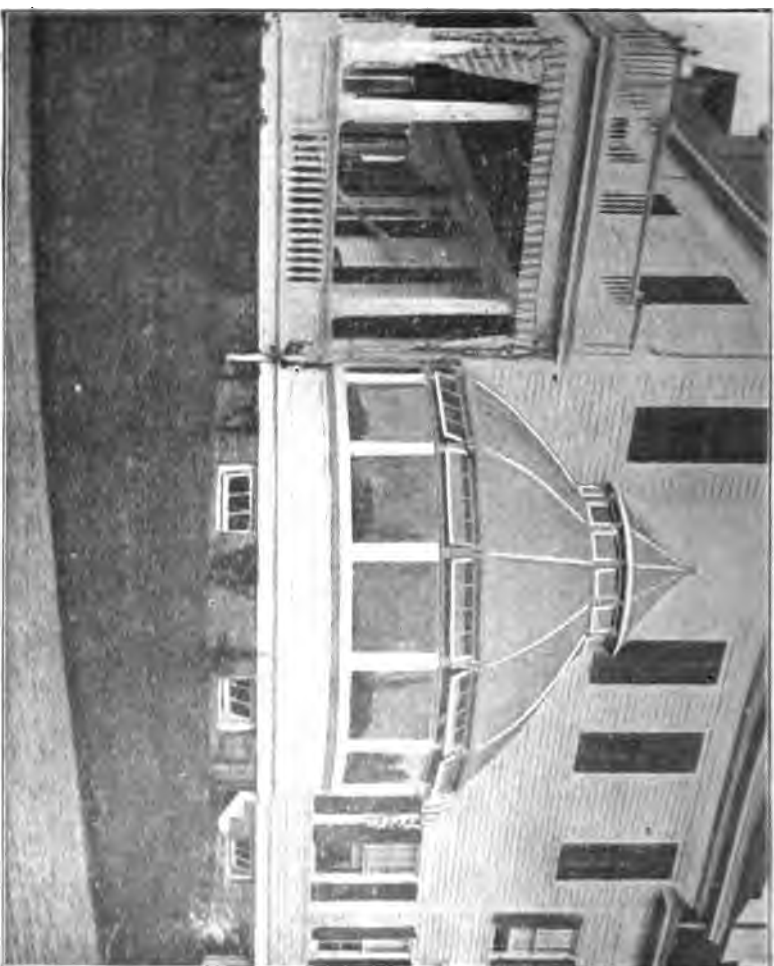


Fig. 21. Chromo Ray Solarium.



Fig. 22. Chromo Ray Solarium.

